Psychological Topics 16 (2007), 2, 259-274

Original Scientific Article – UDC 616.34-052:159.9.072

The Subjective Quality of Life (SQOL) in Gastroenterological Patients

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Abstract

The aim of this study was to assess the subjective quality of life and to identify the psychosocial predictors of SQOL among patients with a variety of gastroenterological diseases. A convenience sample of 78 gastroenterological patients completed questionnaires measuring subjective quality of life, perceived social support, coping style, depression and anxiety. The mean level of SQOL was 73%. Participants with a low level of subjective well-being (< 50%) were more depressive ($p < .001$), had higher levels of both trait and state anxiety ($p < .01$), felt they received less social support from both friends and family ($p < .01$), and used avoidance as a coping strategy more often than patients with normal level of SQOL ($p < .01$). In three of the four domains measured by the WHOQOL-BREF questionnaire – psychological, social and environmental - the subgroup of dissatisfied patients obtained significantly lower results, while in the domain of physical health the two subgroups did not differ. Multiple regression analysis showed the trait-anxiety to be the most important predictor for a subjective QOL. A group of patients remained within the normal range of subjective well-being expected by the homeostatic model, showing that gastroenterological disease alone does not result in homeostatic failure. Psychological variables, especially the anxiety level and perceived satisfaction with the environment, play a major role in maintaining a homeostatic balance. This finding demonstrates the importance and necessity of psychological support in treatment of physical illnesses.

Keywords: subjective quality of life, gastroenterological patients, anxiety, depression, coping, social support

INTRODUCTION

Several studies (Cummins, 1998; Cummins & Nistico, 2002; Mellor, Cummins & Loquet, 1999) have established that when life satisfaction is measured over a range from 0 to 100, the mean scores of Western populations average 75.

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Furthermore, this level proved to be remarkably stable, with only unusually good or bad events causing it to change, usually for a very short period. In order to explain these findings, Cummins has proposed the theory of subjective well-being homeostasis (Cummins, 2003). The theory suggests that, in a manner analogous to homeostatic maintenance of blood pressure or temperature, subjective well-being is actively controlled and maintained by a set of psychological devices functioning under the control of personality (Cummins & Nistico, 2002). Personality characteristics (such as neuroticism and extraversion, optimism and self-esteem) as well as interaction with the environment (such as social support) provide balance in subjective quality of life (Cummins, Gullone & Lau, 2002).

It is emphasized that the operation of these devices is most evident at the level of general, personal well-being, as operationalized by the classic question "How satisfied are you with your life as a whole?" The response an individual gives on this question reflects his/her general state of subjective well-being which, it is proposed, is precisely the level at which the homeostatic system operates, leading it to be remarkably stable (Cummins, Eckersley, Pallant, Van Vugt & Misajon, 2003). Nevertheless, a sufficiently adverse environment can disrupt the homeostatic system and, when this occurs, the level of subjective well-being falls below its homeostatic range and an individual experiences homeostatic failure.

Illness challenges the homeostatic system, but there is no simple relationship between medical health and the level of SQOL. Previous findings on patients with different chronic diseases are not consistent: while in some studies pain was the most significant predictor of SQOL (Muthny, Koch & Stump, 1990; Zebrack & Chesler, 2002), others showed that symptoms of depression and pain overlap in predicting SQOL (Aigner, Förster-Streffleur, Prause, Freidl, Weiss, & Bach, 2006; Evans et al., 1998); in some however neuroticism was shown to be the key factor (Jelicic, Kempen Gertrudis, & Passchier, 1998). The results are also inconsistent considering the SQOL in chronic illness (Hommel, Chaney, Wagner & McLaughlin, 2002; Frühwald, Löffler, Eher, Saletu & Baumhackl, 2001). Studies on patients with visible illness, such as psoriasis, acne or other dermatological conditions, have shown changes in the psychological well-being of patients, due to adverse reactions in a social environment and avoidance of contact with these patients (Jokić-Begić, Tadinac, Lauri Korajlija & Hromatko, 2003; Tadinac, Jokić-Begić, Hromatko, Kotrulja & Lauri Korajlija, 2006). A moderately lowered quality of life was found in patients with acne due to their medical problem, but the impairment depended less on the objective severity of acne and more on the patient's perceptions of his/her condition (Tadinac Babić, Kotrulja, Oremović & Poduje, 2001). Some other studies have shown that, independent of demographic and medical variables, the social support systems and/or improvement of coping strategies could lead to better SQOL (Berman, 2003; Goldstein, Atkins & Leigh., 2002; Parker, Baile, de Moor & Cohen, 2003; Stark, Kiely, Smith, Velikova, House & Shelby, 2002).

The prediction that various gastrointestinal diseases, due to their prolonged and unpleasant symptoms, could lower the SQOL was confirmed in previous studies (Dimenas, Glise, Hallerback, Hernqvist, Svedlund & Wiklund, 1993; Dimenas, Glise, Hallerback, Hernqvist, Svedlund & Wiklund, 1995; Enck, Dubois & Marquis, 1999), but none of them controlled relevant psychosocial variables. Furthermore, Cummins et al. (2003) emphasize that although the classic "life as a whole" question is useful as an estimate of the homeostatic set-point, due to its high level of abstraction it cannot provide information about the components of life that also contribute, positively or negatively, to this sense of well-being. In order to approach such information, questions need to be directed at satisfaction with various life domains.

The aim of this study was to determine the level of SQOL (both general and domain specific) in patients with a variety of gastroenterological diseases and to establish the psychosocial factors which affect it.

METHODS

Participants

Seventy-eight patients from the Department of Internal Medicine, Division of Gastroenterology, University Hospital Centre in Zagreb participated in the study, 45 of them outpatients and 33 inpatients. Their mean age was M = 54.6 (SD = 12.88). Half of them were male, and half female. This was a convenience sample, consisting of patients with a variety of gastroenterological diseases: gastritis (38 patients), ulcus (20 patients), diverticulosis (10 patients), irritable colon (10 patients). It was not categorized according to a patient's diagnosis since that would result in unequal Nos.

The data were collected during a three-week period, comprising all inpatients and outpatients who undertook the control endoscopic diagnostic procedure in that time and who were willing and interested in participating in the study. The procedure was in accordance with the ethical standards defined in the Ethical Code of Conduct of Croatian Psychological Association. All the participants signed an informed consent.

Instruments

Quality of Life was measured in two ways: firstly, by a Subjective Quality of Life (SQOL) scale and, secondly, by the standardized World Health Organisation Quality of Life Questionnaire (WHOQOL-BREF, 1996).

The Subjective Quality of Life (Cummins, 2003) scale is a Likert-type scale measuring satisfaction with life as a whole ("How satisfied are you with your life as

a whole?"), where 1 represents complete dissatisfaction and 7 represents complete satisfaction.

The WHOQOL-BREF (1996) contains 26 questions within four domains, which enabled us to construct a QOL profile from each of the four domain scores (physical health, psychological well-being, social relationships and environment).

The participants were also asked to fill out the following questionnaires:

1) The State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, Lushen, Vagg & Jacobs, 1983) - a 40 item self-report questionnaire intended for the measurement of both current (state) and general (trait) anxiety. The STAI is commonly used in research and clinical settings due to its high validity and reliability.

2) Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock & Erbauch, 1961) – a 21 item self-report scale measuring the severity of depressive symptoms (cognitive, emotional, behavioral and physiological). The BDI is the most commonly used questionnaire for measuring depression in clinical and research studies.

3) Social Support Appraisals Scale (SS-A) (Vaux, Phillips, Holly, Thomson, Williams & Stewart, 1986; Croatian adaptation: Hudek-Knežević, 1994) – a 14 item instrument designed to measure the extent to which an individual believes he/she is loved by, esteemed by and involved with friends and family. In other words, this scale provides an individual's subjective estimate of the support received from family and friends.

4) A Croatian adaptation of the Coping Orientation to Problems Experienced scale (COPE) (Carver, Scheier & Weintraub, 1989; Hudek-Knežević & Kardum, 1993) – a seventeen-item instrument for the assessment of coping strategies, including strategies that are problem focused, emotion focused or avoidance measures.

RESULTS

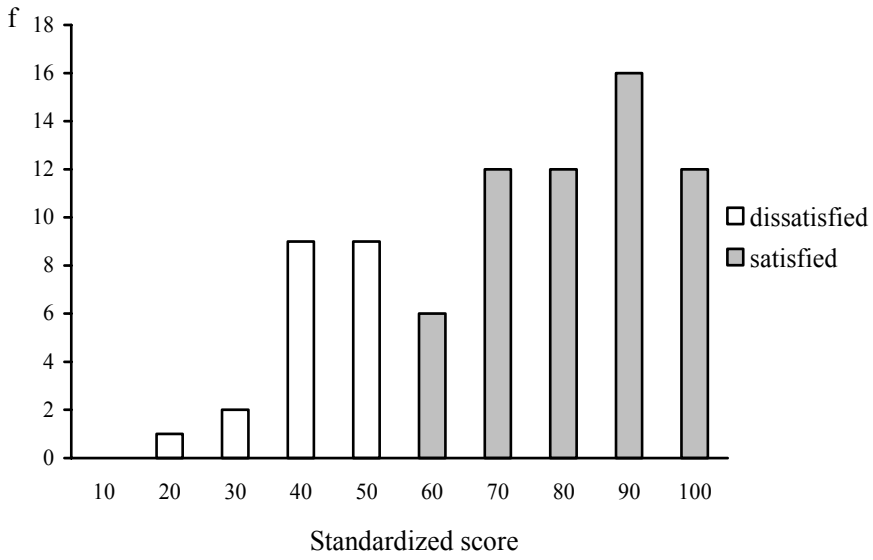
The results on the Subjective Quality of Life Scale (SQOL) and in the four domains measured by the WHOQOL-BREF questionnaire were converted into standardized values from zero to 100. By using this procedure, each result is expressed as a percentage of the scale's maximum, thus making them clearer and more easily comparable to one another.

The mean SQOL in our sample was M = 73.29 (SD = 20.20). On the SQOL scale, where 0 represents complete dissatisfaction with life and 100 represents complete satisfaction with life, a result of 50 would be the dividing point between satisfied and dissatisfied individuals. According to this criterion, we divided our

sample into these two categories in order to examine whether they differed in other relevant variables.

From the distribution of SQOL scores (Figure 1) we can see that 57 (about two thirds) participants placed their SQOL estimate in a positive part of the scale, while 21 of them experienced homeostatic failure.

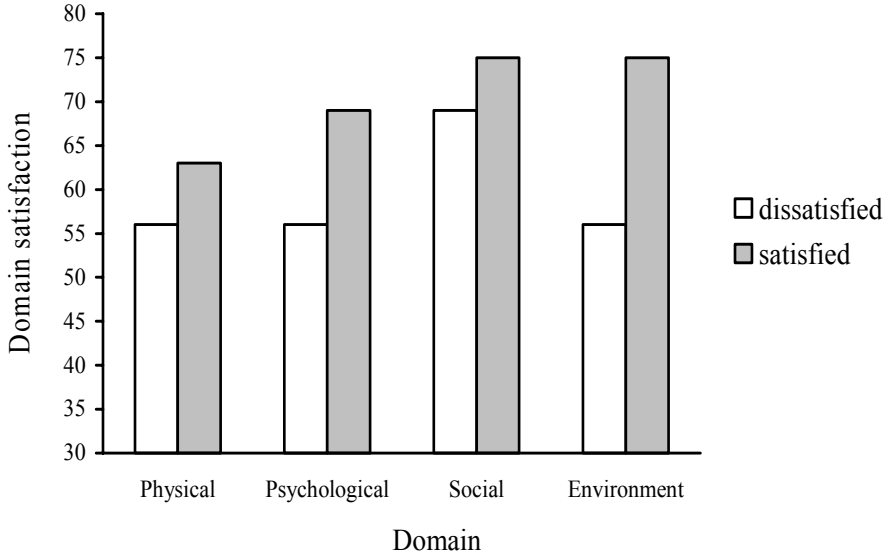
Figure 1. Distribution of standardized scores of Subjective Quality of Life



There were no significant differences between these two subgroups in either gender (chi-square = .59, p = .44) or age (t = 1.48, p = .14). Subgroups did not differ according to severity of patient's diagnosis - in both groups there were patients with more or less severe diagnoses: gastritis as well as diverticulosis or ulcus.

Significant differences between the satisfied and dissatisfied group on the results of the WHOQOL-BREF questionnaire (Figure 2) were found in three of four domains: psychological well-being (t = 3.37, p < .01), social relationship (t = 2.84, p < .01) and environment (t = 4.75, p < .001). The differences in the domain of the physical health were not significant (t = 1.30, p = .20).

Figure 2. Differences between the satisfied and dissatisfied groups in four domains of the WHOQOL-BREF questionnaire



The satisfied and dissatisfied group differed significantly on the majority of psychological measures applied (Table 1), the only exceptions being emotion focused coping style and perception of family support.

Table 1. Means and standard deviations of anxiety, depression, social support and coping style measures in satisfied (n=57) and dissatisfied (n=21) group on SQOL

	Dissatisfied		Satisfied		*t*
	M	*SD*	*M*	*SD*	
STAI - trait	49.45	9.41	37.60	7.12	5.77**
STAI - state	50.20	12.45	41.28	12.56	2.43*
BDI	16.59	10.84	7.75	5.80	4.30**
SS-A - friends support	20.37	5.87	24.91	4.01	3.76**
SS-A - family support	24.62	3.57	26.49	3.94	1.90
COPE – problem focused	15.81	4.03	18.02	3.70	2.27*
COPE – emotion focused	15.14	4.94	15.68	4.42	0.47
COPE – avoidance	7.48	4.35	5.33	3.03	2.45*

**$p < .01$ *$p < .05$

The correlation matrix of examined variables is shown in Table 2. Various domains of the QOL measured by the WHOQOL-BREF questionnaire are differently related to SQOL measures, the smallest correlation being the one with the psychological domain ($r = .31$), and the highest one with the social domain ($r =$

.58). Correlations among various domains are positive and moderate, justifying a division of QOL domains. The highest negative correlations were found between SQOL and trait anxiety (r = -.66), depression (r = -.47) and state anxiety (r = -.42). The highest positive correlations were those between SQOL and social support – family-support (r = .35) and friends-support (r = .35). Avoidance was negatively correlated with SQOL (r = -.37).

Psychological domain is the only QOL domain showing significant correlations with all the examined variables. The highest negative correlation of QOL is with depression (r = -.77), noticeably higher than a correlation with the trait-anxiety measure (r = -.48).

These results compare favorable with the validity of the short WHOQOL-BREF subscale, which comprises aspects of psychological functioning mostly related to depressiveness (Q5 "How much do you enjoy life?", Q6 "To what extent do you feel your life to be meaningful?").

Table 2. Correlation coefficients among all the variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. SQOL	-	**.31**	**.48**	**.42**	**.58**	.20	**-.37**	-.19	**-.47**	**-.66**	**-.42**	**.46**	**.35**
2. WHO-BREF-physical domain		-	**.59**	**.30**	**.43**	.16	-.17	-.10	**-.57**	**-.27**	-.22	.16	.08
3. WHO-BREF-psychological domain			-	**.38**	**.58**	**.35**	**-.43**	**.32**	**-.77**	**-.48**	**-.49**	**.24**	**.28**
4. WHO-BREF – social domain				-	**.46**	.19	**-.33**	.15	**-.33**	**-.44**	-.19	**.32**	**.38**
5. WHO-BREF-environmental domain					-	.17	-.21	.17	**-.56**	**-.51**	-.21	**.40**	**.38**
6. COPE – problem focused						-	**-.28**	**.28**	**-.41**	**-.36**	**-.34**	**.24**	.19
7. COPE – avoidance							-	-.09	**.38**	**.54**	**.27**	**-.26**	**-.31**
8. COPE – emotion focused								-	-.07	-.20	-.20	**.30**	.16
9. BDI									-	**.55**	**.44**	**-.24**	-.18
10. STAI - trait										-	**.56**	**-.55**	**-.39**
11. STAI – state											-	**-.31**	-.14
12. SS-A – friends support												-	**.38**
13. SS-A – family support													-

Note. Correlations significant at $p < .05$ are marked with bold.

Trait-anxiety and depression are consistently correlated with all the QOL domains, while other examined psychological characteristics show specific relations with some of the QOL domains. In order to identify the psychosocial predictors of SQOL, a multiple regression analysis was performed with SQOL as a criterion and the results on psychological measures as predictors (Table 3). The analysis showed that a 46% variance could be explained by psychosocial variables, the most significant predictors being anxiety as a trait and problem-focused coping strategy.

Table 3. The results of multiple regression analysis of psychosocial variables on SQOL (N = 78)

	Beta
STAI - trait	-.45*
COPE – problem focused	-.28*
BDI	-.14
SS-A - friends support	.12
SS-A - family support	.08
COPE - emotion focused	.07
COPE - avoidance	-.07
STAI - state	-.05

*$p < .05$

DISCUSSION

The average level of SQOL in our sample was 73% of the measurement scale maximum score, which is in accordance with Cummins et al's (2003) findings that, at a population level, the average is 75 on a 0-100 scale, i.e. on average, people feel that their general satisfaction with life is about three-quarters of its maximum extent. The crucial idea of the homeostatic theory of well-being is that life satisfaction is homeostatically maintained by a set of psychological devices, lying within a narrow range of values. Although this generalized sense of well-being is held positive, sufficiently adverse circumstances, such as prolonged and painful medical conditions, can defeat the homeostatic system and cause a decrease in the level of the subjective QOL. This was not the case in our study, at least not at group level: gastroenterological patients, on average, remained within the normal range of subjective quality of life expected from the homeostatic model. According to this theory, while unusually bad events will cause a change in SQOL, it will only be a short-term change, because the aforementioned psychological devices will return it to its previous level. Therefore, a crucial problem is to identify those devices. One way to accomplish this could be to compare the psychosocial measures obtained on subgroups of individuals who, although in similar adverse circumstances, perceive their QOL as satisfactory vs. unsatisfactory. According to Cummins, Gullone and

Lau (2002), people's set-point normally lies within the positive scale range of 50-100, and levels lower than 50 thus indicate a homeostatic failure. When analyzed in this manner, the results of our group of gastroenterological patients showed that, while two thirds of them remained within the homeostatic range, 21 patients were dissatisfied with their lives (Figure 1). These two groups did not differ in either age, gender or diagnosis, meaning that the above mentioned difference in general satisfaction cannot be attributed to those variables.

Previously described findings considered the "life as a whole" satisfaction and were not concerned with its sources. While information on general SQOL is useful as an estimate of the homeostatic set-point, due to its high level of abstraction, it cannot provide information about satisfaction in specific domains, whose combination results in an overall subjective sense of well-being.

Therefore, the subgroups of patients who were satisfied vs. dissatisfied with their life as a whole, were compared according to their results on the four domains of WHOQOL-BREF questionnaire (Figure 2). In three of those domains – psychological, social and environmental - the subgroup of dissatisfied patients obtained significantly lower results, while in the domain of physical health the two subgroups did not differ significantly. A lower result in the psychological domain shows they are less satisfied with their bodily image and appearance; thinking, learning, memory and concentration; religion and personal beliefs; they have more negative and less positive feelings; and lower self-esteem. A lower result in the social domain indicates lower satisfaction with personal relationships, social support and sexual activity. Lower satisfaction in the environment domain shows lesser satisfaction with financial resources; physical safety and security; accessibility, quality of health and social care; home environment; opportunities for acquiring new information and skills; recreation; physical environment; and transport.

In the fourth domain – physical health – the subgroups did not differ, meaning they were equally satisfied with their activities of daily living; dependence on medical substances and medical aids; energy and fatigue; pain and discomfort; mobility; sleep and rest; and work capacity. The average results in the physical domain for both groups are lower than in other domains, which is in accordance with their health status. However, although both groups consist of gastroenterological patients who are equally dissatisfied with their physical health, their average results in all other domains are different.

The SQOL as a whole, as well as the separate domain scores, are strongly influenced by the individual's psychological characteristics. Personality traits and psychological state play an important role in the maintenance of a homeostatic subjective quality of life. In this research, we considered such psychological characteristics through examining the role of anxiety, depression, coping strategies and perceived social support in one's overall subjective quality of life assessment. Our results demonstrated that the groups of satisfied and dissatisfied participants

differed in all the applied psychological measures except for perceived family support and the use of emotion-focused coping strategies. In general, dissatisfied participants are more depressive and anxious, they perceive themselves as receiving less social support from friends and use less appropriate coping mechanisms.

Numerous studies have demonstrated that psychological state, especially levels of anxiety and depression, are important mediators of one's medical status and subjective quality of life in illness. The mean values of dissatisfied participants on the anxiety and depression scales indicate clinical levels of these states in this group. Specifically, this group's results on the anxiety scale for both trait and state measures are higher than those for psychiatric patients, as stated in the manual. Conversely, the group of satisfied participants achieved results corresponding to those of healthy adults (Spielberger, 1983).

Moderate anxiety levels have an adaptive function in the overall functioning of the individual. Recent findings have confirmed that, at moderate anxiety levels, SQOL is maintained at a homeostatic level. Only high levels of anxiety lead to homeostatic imbalance and a degradation in quality of life (Cook, 2004).

A high correlation was established between trait anxiety and quality of life, both in the assessment of the quality of life as a whole and within each domain. Trait anxiety showed the highest negative correlation with SQOL (r = -.66). As for separate domains, correlations of QOL were the highest with psychological health (r = -.44), followed by social relations (r = -.41) and environment (r = -.45) domains, while the correlation with physical health assessment was significant, although lower (r = -.24). The results of our research confirm Cook's (2004) findings. However, we must further emphasize that the present research design does not enable us to make any causal conclusions. Indeed, anxiety can be both the source and the result of a deteriorating quality of life.

State anxiety reflects one's current state of anxiety and tension. As the data were collected prior to the endoscopic examination (gastroscopic and/or colonoscopic), higher results on this measure were expected. According to the manual, the expected average result for healthy adult individuals is 36.9, while for those adults with a physical illness an average result of 42.4 is declared (Spielberger, 1983). When comparing our results with those expected according to the manual, we observed that the dissatisfied group had significantly higher results compared with both the satisfied group and the results declared in the manual. In addition, state anxiety was negatively correlated with both SQOL (r = -.42) and the psychological domain (r = -.49). Overall, our results point to the conclusion that, in a situation of endoscopic examination, state anxiety will be higher in individuals who feel less satisfied with their life in general, who judge their psychological health as poor, and who have high levels of both trait-anxiety and depression.

Numerous studies have confirmed the relationship between depression and a decline in the subjective QOL (Skarstein, Aass, Fossa, Skovlund & Dahl, 2000; Tsunoda, Nakao, Hiratsuka, Yasuda, Shibusawa & Kusano, 2005; Mystakidou,

Tsilika, Parpa, Katsouda, Galanos & Vlahos, 2005). In fact, some authors conceptualize depression as a lack of subjective quality of life (Cook, 2004; Davey, 2004; Cummins & Lau, 2004), assuming that the same psychological state of dissatisfaction with life is at the base of both depression and low subjective QOL. The homeostatic mechanisms of depressive individuals are unable to maintain satisfaction with life at a normal level, resulting in reduction of the subjective quality of life which, in turn, leads to further depression. Our results demonstrate more pronounced depression in patients with low SQOL when compared to other group results. Specifically, the average result on the BDI for the group with low quality of life indicators falls in the upper levels of the moderate depression category, indicating a need for psychological help. In contrast, satisfied participants achieved results corresponding to psychologically and physically healthy individuals. In general, higher levels of depression were related to the overall quality of life, as well as to the quality of life in all the specific domains. Additionally, more depressed individuals demonstrated higher levels of both trait and state anxiety, perceived themselves as receiving less social support from friends and more often used avoidance strategies than problem-focused and emotion-focused coping strategies.

Support from others is a major issue for people experiencing illness (Uchino, Cacioppo & Kiecolt-Glaser, 1996). Research evidence consistently demonstrates that people with a high quantity, and sometimes a high quality of social relationships, have lower mortality rates (Berkman, 1995). Cancer patients with more support reported less anxiety and depression and better QOL in the mental health domain, irrespective of demographic and medical variables (Parker et al., 2003). Support for chronically ill people is often provided through the family (Banthia, Malcarne, Varni, Ko, Sadler & Greenbergs, 2003; Trief, Sandberg, Greenberg, Graff, Castronova, Yoon & Weinstock, 2003).

The results of our research show a positive correlation between SQOL and perceived social support from both friends and family. Patients with higher levels of perceived social support, especially social support from friends, are satisfied with their life as a whole and have a higher quality of life in the domains of psychological health, social relations and environment. They are less anxious and depressive and use more effective coping strategies. A comparison of satisfied and dissatisfied groups indicates differences in their perceived level of support from friends, while there is no difference in perceived family support. So, while both satisfied and dissatisfied patients perceive family as a source of support, the perception of friends' support is perhaps more influenced by the anxiety and depressive moods experienced by the patients in the dissatisfied group.

Family relations typically are maintained when one of the family members demonstrates dissatisfaction with life, passive behaviour, along with bad mood and iritability. However, friendly relations demand stronger activation, and it is thus more difficult to maintain such relations in situations with a low level of emotional

functioning. The negative influence of anxiety and depression on maintaining adequate interpersonal relationships may, in turn, intensify the patient's feeling of loneliness and helplessness. Our research demonstrates the significance of friendly relations which, if preserved during illness, have a significant positive influence on the psychological functioning of the individual.

Groups of satisfied and dissatisfied patients showed differences in their means of coping, or ways in which they managed and reacted to threats and challenges posed by a chronic illness. In general, the dissatisfied group used avoidance-coping style more often and problem focused style less often than the satisfied group. In problem-focused coping people try to alleviate the demands of the stressful situation or increase their resources to deal with it (Lazarus & Folkman, 1984).

People tend to use problem-focused coping when they believe it is possible to change the resources or demands of a situations, and it contributes to self-efficacy and overall well-being. In contrast, people who use problem-focused coping less often and avoidance strategies more often are focused on activating personal resources in fighting illness. Giving up and other passive behaviour, characteristic for the avoidance coping style, contribute to intensifying anxiety and depressiveness, a decrease in perceived social support and a decline in SQOL, both overall and in the domains of psychological health and social relations. Emotion-focused coping is not related to either SQOL or the majority of QOL domains, the only exception being the psychological domain.

Penedo et al (2003) found a similar result in a group of HIV-positive gay men. They report that greater use of approach-oriented coping styles and reduced use of avoidance coping styles were associated with lower levels of psychological distress. McCabe, McKern, and McDonald (2004) found that people with multiple sclerosis, particularly if they were men, were less likely to adopt problem-focused and support-seeking coping strategies, and were more likely to have poorer levels of psychological adjustment.

In order to identify the psychosocial predictors of SQOL, a multiple regression analysis was performed with SQOL as the dependent variable and the results on the psychological measures as predictors. Trait-anxiety and problem-focused coping proved to be the most significant psychological predictors of the quality of life. The results demonstrate that a low perceived quality of life is most likely to exist in more anxious participants and those who apply problem-focused coping less often. These results are at variance with those of Skarstein et al. (2000) and Tsunoda et al. (2005), who both found that depression had a stronger impact than anxiety on the global QOL of patients.

One possible reason for this discrepancy could be the use of different instruments for the assessment of depression and anxiety: Skarstein et al. (2000) and Tsunoda et al. (2005) used the Hospital Anxiety and Depression Scale (HADS). The QOL instruments were also different, as The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire C30 (EORTC

QLQ-C30) was used in those studies. Furthermore, some of our participants were patients with less serious gastric diseases. It is possible that less than life-threatening medical conditions did not represent environmental challenges of sufficient intensity in order to defeat homeostasis, produce depression and gain control over the SQOL. In our research, trait-anxiety was identified as a better predictor of SQOL than depression. In an individual with high trait anxiety, a non-life threatening illness, but one with prolongued and unpleasant symptoms, enhances the subjective experience of stress which, in turn, undermines the action of the homeostatic mechanism of well-being. Under these conditions, if a problem-focused coping style is rarely used (e.g. if persons do not believe it is possible to change the resources or the demands of a situation), the overall well-being of that individual will be poor and homeostasis will be defeated.

One limitation of the present study is the existence of a sample bias. Firstly, the results were obtained in only one institution, a university hospital. Secondly, the sample is a convenience sample and has not been categorized by diagnosis. Differences in gastroenterological conditions might indeed contribute to a difference in quality of life predictors. However, in this research we have chosen to explore the effects of various psychological variables, and have not taken medical variables, such as the degree of illness, pain, type of treatment, etc., into account.

In conclusion, an enhanced understanding of the common psychological concerns and quality of life of gastroenterological patients can help to improve the clinical care for the patient. Anxiety, depression, coping style and social support are variables related to the quality of life and can have significant impact on the patient's respect for physician's orders and advice and, consequently, treatment outcome. By using appropriate psychodiagnostics, it is possible to evaluate the influence of illness on the patient and also to determine the characteristics of both the individual and his/her social surrounding which can influence the course of illness and the success of treatment. Furthermore, it would enable us to plan efficient psychosocial intervention programs, which would include components of health education, stress management and illness coping.

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Received: 03. 07. 2007.