

# Minimal role of comorbid personality disorder on the quality of life in patients with anxiety spectrum disorders

Dana KAMARADOVA, Klara LATALOVA, Jan PRASKO, Ales GRAMBAL,  
Zuzana SIGMUNDOVA, Petra KASALOVA, Snezana CAKIRPALOGLU

Department of Psychiatry, Faculty of Medicine and Dentistry, Palacky University Olomouc, University Hospital Olomouc, Olomouc, Czech Republic

*Correspondence to:* Dana Kamaradova, MD., PhD.  
Department of Psychiatry, University Hospital Olomouc  
I.P. Pavlova 6, Olomouc, 779 00, Czech Republic.  
TEL: +420 588 44 3519; E-MAIL: dana.kamaradova@fnol.cz

*Submitted:* 2016-09-23 *Accepted:* 2016-10-10 *Published online:* 2017-01-15

*Key words:* **quality of life; social phobia; panic disorder; agoraphobia; adjustment disorder; generalized anxiety disorder; obsessive-compulsive disorder; personality disorders**

Neuroendocrinol Lett 2016; **37**(8):559–566 PMID: 28326752 NEL370816A03 © 2016 Neuroendocrinology Letters • [www.nel.edu](http://www.nel.edu)

## Abstract

**OBJECTIVES:** There is no consensus on the definition of Quality of life (QoL). It is considered to be comprised of both psychological and somatical well-being. A variety of tools has been developed to measure subjective and objective (QoL). A number of factors, including demographical and medical may have an impact on QoL. The aim of our study was to compare the QoL in selected anxiety disorders and evaluate the influence of comorbid personality disorder.

**METHOD:** We evaluated data from 278 patients suffering from social phobia, panic disorder and/or agoraphobia, adjustment disorder, generalized anxiety disorder and obsessive-compulsive disorder. Personality disorders were diagnosed in 90 probands. The Quality of Life Enjoyment and Satisfaction (Q-LES-Q) was used to assess patients' perceived QoL.

**RESULTS:** Up to our data there was no statistical difference in overall score of quality of life in selected anxiety disorders. The only significant difference between patients was found in subscale "household." Comorbid personality disorder had no influence on the overall score or any domain of Q-LES-Q.

**CONCLUSION:** Our study proved that presence of anxiety disorder means a decrease in QoL. Particular anxiety disorders did not differ in overall scores of Q-LES-Q. Furthermore, comorbid personality disorder had no impact on quality of life of patients.

## INTRODUCTION

Old-fashioned views on health care that accentuate symptoms are grounded on a constricted and obsolescent idea of health. In the 1948 World Health Organisation defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease." (WHO

1948). This statement indicated the importance also of mental health in the treatment. The QoL as an idea in healthcare began more important in the 1960s and 1970s, in reaction to growing disappointment with medicinal management. At the begging, it was mostly applied in somatic medicine, e.g. in oncology. It was used to determine whether the treatment only prolongs the survival

time of patients or if it also improves their wellbeing (Spitzer *et al.* 1981).

Fist documented use of this term is in the article written by Elkington in 1966. In the first column of this article, the author thinks over improvement of treatment skills (“medicine is doing the tuning with unprecedented skill”) but not the satisfactory improvement of patients being (“trouble with the harmony”). The author asked: “What is the harmony within a man and between a man and his world – *the quality of life* – to which the patient, the physician, and society aspire? “Health care professionals have a tendency to pay only a little attention to fundamental needs of patients such as autonomy and attachment (Katschnig 1997). The excessive growth of attention to the QoL in the 1990s can also be understood as a reaction to this increasing dissatisfaction with medicine, and accent on the holistic and patient-oriented visions of healthcare (Stastny & Amering 1997).

There is no generally accepted definition of QoL. It seems that all non-medical domains of the disorder are involved in this concept (e.g. social functioning, emotional functioning, life satisfaction, functional performance) (Katschnig 2006). The quality of life is considered to be a subjective perception of patient’s life. This theory is based on several sociological studies that proved, that objective life conditions (such as education level or salary), only slightly influence the quality of life. On the other hand, it is recommended to avoid the philosophical concept, and we should concentrate on personal experienced associated with health (Mendlowicz & Stein 2000). In the Czech Republic was QoL widely evaluated in patients suffering from both somatic and mental disorders (Hosakova & Jarosova 2015; Jelenova *et al.* 2015; Tothova *et al.* 2014; Brozova *et al.* 2009). However no study focused on the impact of personality disorder on quality of life in patients with anxiety disorders.

#### Anxiety disorders and quality of life

Anxiety disorders are the most common of all psychiatric disorders with high economic costs (Lépine 2002). Despite expectation, primary research suggests that presence of anxiety disorder has a severe impact on the QoL. Most studies focused on QoL in the anxiety disorders compare the QoL with depressive disorder, chronic somatic illnesses, general good health. Some of them concentrated on particular anxiety disorders (Mendlowicz & Stein 2000).

There are several motives that make the evaluation of QoL in patients suffering from different anxiety disorders meaningful and essential. Based on the clinical experience we can say that different anxiety disorders affect the QoL in various ways. Anxiety disorders seem to impact QoL negatively in many respects, through the anxiety as such, or due to avoidant behavior and stigmatization. There is no description of which specific aspects of QoL are influenced by various types of disor-

ders (Schneier 1997). The QoL is practically unrecognizable from disability for the anxiety disorder. Which should motivate actions to create more distinguishable evaluation QoL in anxiety disorder. Thus there are some tools established especially for use in a population of anxiety patients accent social and job-related problems or impairment and relatively suppress other domains such as well-being or subjective satisfaction with life. According to the contemporary perception of QoL, more emphasis is put on the impairment of common life domains (such as job or income), but also the positive aspects of life should be included in the evaluation of QoL. Frisch (1998) states that positive aspects are powerful not only because they affect life contentment, but also because of the adaptive consequences. Positive life experiences are linked with improved longevity, ability to solve problems, social awareness and impenetrability of illness. Life satisfaction and positive affects seem to be independent of negative affects and symptoms of disorders. It can, therefore, be considered to be a mistake to infer life satisfaction and well-being from nonattendance of impairment (1998). There are differences in various anxiety disorders. In the study of Cramer *et al.* (2005) social phobias, panic disorder, and generalized anxiety disorder have an adverse impact on QoL of patients. On the other hand, obsessive-compulsive disorder had only small, and agoraphobia had no effect on the quality of life.

#### Personality disorders and quality of life

Personality disorders (PD) are characterized by the presence of permanent maladaptive patterns of sensing, thinking and behaving. These models are linked to both surroundings and patients itself. These inappropriate characteristics are presented in a wide range of interpersonal, social, family and job issues. In previous epidemiological studies, such as a National survey performed in Australia by Jackson and Burgess (2000) authors reported that the SF-12 Physical and Mental Component Summary Scales (PCS and MCS) were considerably decreased in individuals at least one personality disorders identified by this screening instrument. When authors have additionally compared the association between the SF-12 and personality disorders, they recognized that comorbid chronic physical illness and Axis I disorders account for considerable part of PCS and MCS in probands (Jackson & Burgess 2002). The national study carried out in the United States (Grant *et al.* 2004) confirmed the reduced Mental Component Summary scores after adjusting for comorbid Axis I disorder in the antisocial, dependent, avoidant, paranoid, and schizoid personality disorders. This reduction was not presented in patients suffering from the histrionic personality disorder. The negative impact of personality disorder on overall QoL and several subscales of the SF-36 proved also study made by Hueston *et al.* (1996). Up to their results, high risk of PD is associated with lower scores in these scales compare to patients with

low risk of PD. Results of this study may be influenced by the higher prevalence of alcohol assessment and depression in the high-risk group.

Personality disorders are a stronger negative predictor of quality of life than demographic factors, somatic disorders and Axis I disorders (Cramer *et al.* 2006). Among the personality disorders, avoidant, paranoid, schizotypal and schizoid personality characteristics were the most statistically domineering detrimental contributing factor for QoL, followed by borderline, dependent and antisocial. Some specific domains of QoL were also negatively influenced by narcissistic PD and self-defeating behavior (Cramer *et al.* 2007). Also in the recent epidemiological study of US general population personality disorders were accompanying with the substantial declines in QoL. The highest losses were found in annual population QALY (quality-adjusted-life-year) after arthritis and mood disorders (Penner-Goeke *et al.* 2015).

#### Aims and hypotheses:

Several epidemiological studies or even reduced health-related QoL in patients with personality disorders (Cramer *et al.* 2005, 2006, 2007; Penner-Goeke *et al.* 2015), but only one clinical study have examined QoL in personality disorders (Narud *et al.* 2005). The objective of the study was to find out the relation between the quality of life, comorbidity with a personality disorder, the severity of the disorder, and various demographic factors in patients suffering from anxiety spectrum disorders. The research hypotheses expected were:

1. Patients with selected anxiety disorders had lower quality of life (measured by Q-LES-Q) compare to healthy controls
2. There are differences in quality of life between diagnostic groups
3. The quality of life is negatively affected by comorbid personality disorder.

## METHOD

### Subjects

Patients suffering from anxiety spectrum disorders, referred to an intensive psychotherapeutic inpatients program, were enrolled in the study. Proband meeting ICD-10 criteria (1992) for phobic anxiety disorders (panic disorder, agoraphobia, and social phobia), generalized anxiety disorder, obsessive-compulsive disorder or adjustment disorders were enrolled in the study. The diagnosis was confirmed by two independent raters. Included were patients aged between 18 to 65 years who agreed to participation in the study. Excluded were patients diagnosed with bipolar disorder, schizophrenia and other psychotic disorders, organic disorder and those who were severely physically handicapped. Excluded were also patients with significant suicidal tendencies. Comorbid personality disorder was not an exclusion criterion.

Advertisement recruited the control group. Gender and age-matched it. Control group undergoes the interview with rater. A person suffering from the mental or somatic disorder and/or using drugs were excluded.

The study was executed by the Guidelines for Good Clinical Practices and last version of the Declaration of Helsinki and the Guideline for GCP (EMEA 2002). After the procedure was fully explained, all probands signed a written consent. The local Ethics Committee of University Hospital Olomouc approved this project.

### Assessment methods

After patients had signed an informed consent, they filled out questionnaires during first two days of their hospitalization. Relevant clinical and demographic data were obtained during the initial examination. Following assessment methods were used:

**BAI** (Beck *et al.* 1988) – Beck Anxiety Inventory involves of 21 items based on a four-point Likert scale in which person choose, which of the described anxiety symptoms they experienced during last week. The method has good internal consistency (mean  $\alpha=0.91$ ) (de Ayale *et al.* 2005). Also, the Czech version of this scale showed good psychometric values (the Cronbach alpha=0.92) (Kamaradova *et al.* 2016).

**BDI II** (Beck *et al.* 1996) – Beck depressive inventory second edition is a self-rating scale that also includes 21 questions. Patients rate the level of depressive symptoms on a four-point Likert-type scale. This scale evaluates both mental (feelings of failure, fear of the future, guilt) and somatic (sleep disorders, fatigue, decreased libido) symptoms of depression. This inventory had good internal consistency (mean  $\alpha=0.9$ ) (Storch *et al.* 2004). Preiss and Vacir (1999) standardized the Czech version of this tool.

**CGI** (Guy 1976) – Clinical Global Impression is used to evaluate the global symptoms severity of scale from one to seven. Unique characteristics of each point are defined. The intra-class correlations lie in the interval 0.88–0.92 (Kadouri *et al.* 2007).

**Q-LES-Q** (Ritsner *et al.* 2005) – The quality of Life Satisfaction and Enjoyment Questionnaire uses 93 questions. They are divided into eight main domains (physical health/activities, work, household, feelings, school/course work, leisure time activities, social relation and general activities) (Müllerova 2001). It takes from 20 to 30 minutes, according to the health status of the patient. The Q-LES-Q was validated in Czech by Müllerova *et al.* (2001).

### Statistical evaluation

The statistical programs SPSS 17.0 and GraphPad Prism 5.0. were used to evaluate the results. Descriptive statistics was used to the calculation of the demographic data, average scores, and a character of data distribution. Pearson or Spearman correlation analyzed relationships between factors. Fisher's test calculated the relation of alternative variables. The 5% level of

statistical significance was considered acceptable for all the statistical tests. Relationships between multiple factors were analyzed by multiple regressions – a backward stepwise regression analysis.

## RESULTS

### Demographic and clinical data – comparison with healthy controls

278 patients suffering from selected anxiety disorders participated in the study. Proband was recruited from inpatients hospitalized on a psychotherapeutic unit of University Hospital Olomouc, Czech Republic. 95 healthy controls took part in the study. The mean objective CGI of the patients' group was 4.16±1.43. The groups did not statistically differ in gender and age. There was a statistical difference in the level of depression (measured by BDI) and anxiety (measured by BAI). Between the groups, there was also a significant difference in the quality of life (measured by Q-LES-Q sum and Q-LES-Q per) (Table 1). The groups significantly differ in all Q-LES-Q domains ( $p < 0.0005$ ).

### Comparison between diagnostic groups

In the study participated 47 patients suffering from social phobia, 80 patients with panic disorder and/or agoraphobia, 26 from generalized anxiety disorder, 62 from adjustment disorder and 63 from obsessive-compulsive disorder. The mean clinical and demographical data are presented in Table 2. There was no significant difference in total score (both sum and percent) of Q-LES-Q between various groups (Table 2). However, we found important differences in subscale Q-LES-Q Household (Table 3) (Dunn's Multiple Comparison Test; GAD vs. OCD and Panic and/or Agoraphobia ( $p < 0.05$ ); GAD vs. Adjustment disorder ( $< 0.01$ )).

### Influence of comorbid personality disorder

In our group, 90 probands (32.4%) were suffering from comorbid personality disorders. The most frequent was emotionally unstable personality disorder ( $n=48$ ), rest of the patients suffered from mixed personality disorder ( $n=25$ ), anxious/avoidant personality disorder ( $n=6$ ), histrionic personality disorder ( $n=5$ ), dependent personality disorder ( $n=3$ ) and unspecified personality disorder ( $n=2$ ). Comorbid personality disorder was the most commonly presented in patients diagnosed as adjustment disorder; it was diagnosed in 45.16% of patients ( $n=28$ ). In patients with social phobia personality disorder was presented in 38.3% of patients ( $n=18$ ). About one-quarter (25.4%;  $n=16$ ) of obsessive compulsive patients suffer from a personality disorder. 27.5% of patients ( $n=22$ ) diagnosed as panic disorder and 23.07% ( $n=6$ ) diagnosed as generalized anxiety disorder. The presence of comorbid personality disorder did not significantly influence any subscale or a total score of Q-LES-Q (Table 4).

## DISCUSSION

The aim of the study was to compare the quality of life in patients with anxiety spectrum disorder with or without personality disorders, and healthy controls.

The first hypothesis that "patients suffering from selected anxiety disorders had a lower quality of life compare to healthy controls, was confirmed. Like in other investigations the quality of life in patients was lower than in healthy controls (Mendlowicz & Stein 2000; Schneier 1997; Cramer *et al.* 2005; Rapaport 2005; Watson *et al.* 2010; Ghaedi *et al.* 2010; Heiser 2009).

The second hypothesis "There are differences in quality of life between diagnostic groups" was not confirmed. The total scores in all evaluated diagnos-

**Tab. 1.** Demographic and clinical data – comparison with healthy controls.

	Demographic				Clinical			
	Gender (M: F)	Age (years)	Age of onset (years)	Duration (years)	BDI	BAI	Q-LES-Q sum	Q-LES-Q per
		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Patients (n=278)	113 : 165	35.62±11.32	27.14±12.97	8.29±8.48	22.7±9.83	24.43±13.56	220±52.33	47.31±11.25
Healthy controls (n=95)	37 : 58	35.63±13.43	NA	NA	7.13±6.7	5.75±4.92	311.2±46.92	66.92±10.09
Statistic test	Fisher's exact test	Mann-Whitney test	NA	NA	unpaired t-test	Mann-Whitney test	unpaired t-test	unpaired t-test
Patients vs. Controls	ns	ns	NA	NA	$p < 0.0001$	$p < 0.0001$	$p < 0.0001$	$p < 0.0001$

M – Male, F – Female, NA – not applicable, Q-LES-Q sum – The quality of Life Satisfaction and Enjoyment Questionnaire sum, Q-LES-Q per – The quality of Life Satisfaction and Enjoyment Questionnaire percent; BDI – Beck Depressed Inventory, BAI – Beck Anxiety Inventory, ns – not significant)

**Tab. 2.** Demographic and clinical data – comparison of patients groups.

	Demographic				Clinical				
	Gender (M: F)	Age (years)	Age of onset (years)	Duration (years)	CGI	BDI	BAI	Q-LES-Q sum	Q-LES-Q per
		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Social phobia (n=47)	28 : 19	29.53±10.91	18.62±9.53	10.72±9.64	4.00±1.37	22.50±10.11	24.09±11.99	221.4±60.7	46.38±11.36
Panic disorder and/or agoraphobia (n=80)	22 : 58	39.34±11.51	31.57±12.63	7.75±8.38	4.19±1.37	21.65±10.3	29.68±13.89	212.7±52.4	49.46±12.72
Generalized anxiety disorder (n=26)	6 : 20	42.65±9.683	34.42±13.76	6.37±7.56	4.20±1.04	25.23±9.52	27.33±13.95	209.6±51.9	45.08±8.85
Adjustment disorder (n = 62)	19 : 45	35.89±11.28	29.59±13.49	6.40±8.53	3.57±1.62	24.46±8.39	20.63±12.43	225.4±48.0	47.34±9.43
Obsessive compulsive disorder (n=63)	33 : 30	32.59±8.74	22.48±9.82	10.12±7.77	4.77±1.27	21.33±10.24	20.63±12.86	223.4±50.4	45.89±11.73
Statistic test	Chi-square	Kruskal-Wallis test KW stat=37.2	one-way ANOVA F=14.35 df=277	Kruskal-Wallis test KW stat=25.51	Kruskal-Wallis test KW stat=22.81	one-way ANOVA F=1.399 df=266	one-way ANOVA F=6.105 df=267	one-way ANOVA F=0.8307 df=265	one-way ANOVA F=0.8305 df=265
Comparison	<i>p</i> <0.0001	<i>p</i> <0.0001	<i>p</i> <0.0001	<i>p</i> <0.0001	<i>p</i> <0.0001	n.s.	<i>p</i> <0.0001	n.s.	n.s.

M – Male, F – Female, Q-LES-Q sum – The quality of Life Satisfaction and Enjoyment Questionnaire sum, Q-LES-Q per – The quality of Life Satisfaction and Enjoyment Questionnaire percent; BDI – Beck Depressed Inventory, BAI – Beck Anxiety Inventory, ns – not significant)

**Tab. 3.** Quality of life – comparisons of patients groups.

	Q-LES-Q subscales							Q-LES-Q total		
	Q-LES-Q physical health/ activities	Q-LES-Q work	Q-LES-Q household	Q-LES-Q feelings	Q-LES-Q school/ course work	Q-LES-Q Leisure time activities	Q-LES-Q Social relations	Q-LES-Q General activities	Q-LES-Q sum	Q-LES-Q per
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Social phobia (n = 47)	30.86±11.05	27.84±17.10	26.55±13.26	37.16±11.84	10.77±5.13	17.61±6.11	31.57±11.98	39.02±13.56	221.4±60.7	46.38±11.36
Panic disorder and/or agoraphobia (n = 80)	29.79±10.04	25.62±15.84	27.32±12.78	35.67±9.51	11.74±4.82	16.45±6.53	29.84±9.51	36.20±11.35	212.7±52.4	49.46±12.72
Generalized anxiety disorder (n = 26)	35.04±12.26	22.36±12.82	18.32±11.55	34.60±10.52	12.32±5.71	17.80±6.07	30.16±9.79	39.00±15.14	209.6±51.9	45.08±8.85
Adjustment disorder (n = 62)	31.72±10.20	24.10±17.00	29.42±12.61	38.05±10.74	12.31±7.33	19.06±6.29	33.34±10.79	37.29±11.09	225.4±48.0	47.34±9.43
Obsessive compulsive disorder (n = 63)	32.72±10.52	25.26±16.24	27.95±12.03	38.10±9.76	12.03±7.00	18.05±5.65	39.84±10.46	38.46±11.24	223.4±50.4	45.89±11.73
Statistic test	one-way ANOVA F= 1.445 df=266	Kruskal-Wallis test KW stat= 2.259	Kruskal-Wallis test KW stat= 13.68	one-way ANOVA F= 0.977 df=267	Kruskal-Wallis test KW stat= 4.282	one-way ANOVA F= 1.573 df=266	one-way ANOVA F= 1.059 df=267	one-way ANOVA F= 0.5746 df=266	one-way ANOVA F= 0.8307 df=265	one-way ANOVA F= 0.8305 df=265
<i>p</i> -value	n.s.	n.s.	<i>p</i> <0.01	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

SD – standart deviation; Q-LES-Q sum – The quality of Life Satisfaction and Enjoyment Questionnaire sum, Q-LES-Q per – The quality of Life Satisfaction and Enjoyment Questionnaire percent; ns – not significant

tic groups are nearly the same, without any statistically significant difference. The only exception was the subscale “household” which had statistically different means with markedly lower average score in a patient with GAD, than in other diagnostic groups. This finding is curious, and it is in agreement with typical interpersonal problems of this diagnosis (Eng & Heimberg 2006), what is not so typical in others anxiety disorders groups. GAD seems to be associated interpersonal malfunction. It is often linked to high level of criticism, low social support, poor quality of relationships, doubtful attachment, and social stressors. A wide range of researchers supports this connection between anxiety and interpersonal problems (Beck 2010; Eng & Heimberg 2006; McLeod 1994; Whisman *et al.* 2000; Whisman 2007; Zaider *et al.* 2010). In agreement with our results, the meta-analytic review of 2892 studies made by Olatunji *et al.* (2007) proved no differences in quality of life between various diagnostic groups (social phobia, posttraumatic stress disorder, generalized anxiety disorder, panic disorder, and obsessive-compulsive disorder).

The third hypothesis than “the quality of life is negatively affected by comorbid personality disorder” was not confirmed in our data. There were no differences between any domain of the quality of life in patients with and without comorbidity with a personality disorder. These results are surprising because epidemiological studies showed the significantly lower quality of life in patient with personality disorder compared to persons without a personality disorder (Jackson & Burgess 2000; Black *et al.* 2010; IsHak *et al.* 2013). Nevertheless, those comparisons were compared individuals

with personality disorder with the population without a personality disorder, not with patients suffering from anxiety disorders. There is a Duch study (Bouman *et al.* 2008) that compares the subjective and objective quality of life in personality disorder patients and patients with the major mental illness. Global subjective QoL score was significantly lower in the personality disorder group. Despite the fact that objective indicators of QoL were higher in patients with personality disorders.

When authors of mention study consequently compared the patient with personality disorder and comorbidity with Axis I condition, there was shown, that axis I disorder explained a considerable part of the QoL scores (Jackson & Burgess 2002). The US national epidemiological study made by Grant *et al.* (2004) confirmed the reduced QoL in some personality disorders also after controlling for comorbid Axis I disorder. However, there are many differences between our and mentioned a study in methodology: our study is clinical, not epidemiological, our patient was actually in process or treatment, and we used another instrument for measurement.

Limitations

The present study had several limitations. To measure the QoL we used the subjective self-rating measurement which is not unique to psychiatric patients with anxiety or personality disorders. However, to compare our sample with healthy controls, it is necessary to use the instrument suitable for each of these groups. The basic concept of QoL emphasizes the patient’s subjective appraisal of their satisfaction. We also used the subjective self-evaluation questionnaire for evaluation

**Tab. 4.** Quality of life – influences of personality disorders.

	Q-LES-Q subscales								Q-LES-Q total	
	Q-LES-Q physical health/ activities	Q-LES-Q work	Q-LES-Q household	Q-LES-Q Feelings	Q-LES-Q school/ course work	Q-LES-Q Leisure time activities	Q-LES-Q Social relations	Q-LES-Q General activities	Q-LES-Q sum	Q-LES-Q per
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Without personality disorder (n=278)	31.13±10.55	25.48±15.92	26.58±12.45	36.31±9.99	11.92±6.48	17.62±5.96	31.23±10.16	36.87±11.84	217.4±50.9	46.74±10.94
With personality disorder (n=95)	32.59±10.74	24.74±15.62	27.83±13.54	38.17±11.04	11.65±5.27	17.99±6.70	31.11±11.17	39.44±12.24	223.2±55.3	48.01±11.89
Statistic test	unpaired t test t=1.053 df=265	Mann Whitney test U=7375	Mann Whitney test U=7208	unpaired t test t=1.377 df=266	Mann Whitney test U=7843	unpaired t test t=0.4479 df=265	unpaired t test t=0.08148 df=266	unpaired t test t=1.642 df=265	unpaired t test t=0.8582 df=264	unpaired t test t=0.8579 df=264
p-value	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

SD – standard deviation; Q-LES-Q sum – The quality of Life Satisfaction and Enjoyment Questionnaire sum, Q-LES-Q per – The quality of Life Satisfaction and Enjoyment Questionnaire percent; ns – not significant

of the severity of the disorder, and for the measurements of the amount of the anxiety and depressive symptomatology. On the other hand, in the situation that all instruments were “subjective”, they are more comparable than in case that one is “objective” and the second “subjective”. Self-evaluations of the individuals with psychiatric morbidity were previously thought to be inexact because of the negative influence of insight and symptoms of psychiatric disorder (Browne *et al.* 1996). Hence many studies are using objective QoL evaluations (Heinrichs *et al.* 1984), which depends on the interviews with trained interviewers. Lehman (1983a,b) showed that also QoL information from individuals with chronic serious psychiatric disorders was reliable, and so also subjective scale may be used to measure the QoL of psychiatric patients.

The other limitation of the study is that filling the subjective questionnaire can be influenced by the actual emotional state, which could be more unstable in individuals with some diagnoses, e.g. borderline personality disorder.

## CONCLUSION

Our results suggest that the subjective quality of life in patients with anxiety disorders is lower than in healthy controls. There was no difference in overall score of Q-LES-Q between selected diagnostic groups, despite the fact there the groups differ in severity of disorders (measured by CGI and BAI). When comparing particular sub-scales we found significant difference only in domain “household.” Highest score was presented in patients suffering from adjustment disorder and the lower in patients with generalized anxiety disorder. In our sample presence of comorbid personality disorder did not impact any domain of Q-LES-Q or an overall score of this questionnaire.

### Conflict of interests

*The authors report no conflicts of interest in this work.*

## REFERENCES

- 1 Beck AT, Epstein N, Brown G, Steer RA (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*. **56**: 893–899.
- 2 Beck AT, Steer RA, Brown GK (1996). Beck depression inventory-II. San Antonio, TX: Psychological Corporation. b9.
- 3 Beck JG (2010). *Interpersonal Processes in the Anxiety Disorders: Implications for Understanding Psychopathology and Treatment*. Washington, DC: American Psychological Association.
- 4 Black DW, Gunter T, Loveless P, Allen J, Sieleni B (2010). Antisocial personality disorder in incarcerated offenders: Psychiatric comorbidity and quality of life. *Ann Clin Psychiatry*. **22**: 113–20.
- 5 Bouman YH, Van Nieuwenhuizen C, Schene AH, De Ruiter C (2008). Quality of life of male outpatients with personality disorders or psychotic disorders: a comparison. *Crim Behav Ment Health*. **18**: 279–91.
- 6 Browne S, Roe M, Lane A, Gervin M, Morris M, Kinsella A, Larkin C, Callaghan EO (1996). Quality of life in schizophrenia: relationship to sociodemographic factors, symptomatology, and tardive dyskinesia. *Acta Psychiatr Scand*. **94**: 118–124.
- 7 Brozova H, Stochl J, Roth J, Ruzicka E (2009). Fear of falling has greater influence than other aspects of gait disorders on quality of life in patients with Parkinson's disease. *Neuro Endocrinol Lett*. **30**: 453–7.
- 8 Cramer V, Torgersen S, Kringlen E (2005). Quality of life and anxiety disorders: a population study. *J Nerv Ment Dis*. **193**: 196–202.
- 9 Cramer V, Torgersen S, Kringlen E (2006). Personality disorders and quality of life. A population study. *Compr Psychiatry*. **47**: 178–84.
- 10 Cramer V, Torgersen S, Kringlen E (2007). Socio-demographic conditions, subjective somatic health, Axis I disorders and personality disorders in the common population: the relationship to quality of life. *J Pers Disord*. **21**: 552–567.
- 11 de Ayala RJ, Vonderharr-Carlson DJ, Kim D (2005). Assessing the reliability of the Beck Anxiety Inventory scores. *Educ Psychol Meas*. **65**: 742–756.
- 12 Elkinton JR (1966). Medicine and the quality of life. *Ann Intern Med*. **64**: 711–4.
- 13 EMEA, 2002: <http://www.ema.europa.eu/pdfs/human/ich/013595en.pdf>. 20.3.2009
- 14 Eng W, Heimberg R (2006). Interpersonal correlates of generalized anxiety disorder: Self versus other perception. *Journal of Anxiety Disorders*. **20**: 380–387.
- 15 Frisch MB (1998). Quality of life therapy and assessment in health care. *Clinical Psychology: Science and Practice*. **5**: 19–40.
- 16 Ghaedi G, Tavoli A, Bakhtiari M, Melyani M, Sahragard M (2010). Quality of life in college students with and without social phobia. *Social Indicators Research*. **97**: 247–256.
- 17 Grant BF, Hasin DS, Stinson FS, Dawson DA, Chou SP, Ruan WJ, Pickering RP (2004). Prevalence, correlates, and disability of personality disorders in the United States: results from the national epidemiologic survey on alcohol and related conditions. *J Clin Psychiatry*. **65**: 948–958
- 18 Guy W (ed.): ECDEU Assessment manual for psychopharmacology. Rockville, U.S. DHEW; 1976.
- 19 Heinrichs DW, Hanlon TE, Carpenter WT Jr (1984). The Quality of Life Scale: an instrument for rating the schizophrenic deficit syndrome. *Schizophr Bull*. **10**: 388.
- 20 Heiser NA, Turner SM, Beidel DC, Roberson-Nay R (2009). Differentiating social phobia from shyness. *Journal of Anxiety Disorders*. **23**: 469–476.
- 21 Hosakova J, Jarosova D (2015). Quality of life and needs of hospitalized schizophrenic patients in the Czech Republic. *Neuro Endocrinol Lett*. **36**: 288–93.
- 22 Hueston WJ, Mainous AG, III, Schilling R. Patients with personality disorders: functional status, health care utilization, and satisfaction with care. *J Fam Pract*. **42**: 54–60.
- 23 IsHak WW, Elbau I, Ismail A, Delaloye S, Ha K, Bolotaulo NI, Nashawati R, Cassmassi B, Wang C (2013). Quality of life in borderline personality disorder. *Harv Rev Psychiatry*. **21**: 138–50.
- 24 Jackson HJ, Burgess PM (2000). Personality disorders in the community: a report from the Australian National Survey of Mental Health and Wellbeing. *Soc Psychiatry Psychiatr Epidemiol*. **35**: 531–538.
- 25 Jackson HJ, Burgess PM (2000). Personality disorders in the community: a report from the Australian National Survey of Mental Health and Wellbeing. *Soc Psychiatry Psychiatr Epidemiol*. **35**: 531–8.
- 26 Jackson HJ, Burgess PM (2002). Personality disorders in the community: results from the Australian National Survey of Mental Health and Wellbeing. Part II. Relationship between personality disorder, Axis I mental disorders and physical conditions with disability and health consultations. *Soc Psychiatry Psychiatr Epidemiol*. **37**: 251–260.
- 27 Jelenova D, Prasko J, Ociskova M, Karaskova E, Hunkova M, Kolarova J, Vydra D, Holubova M, Hruby R, Latalova K, Mihal V (2015). Quality of life in adolescents with inflammatory bowel disease and their parents—comparison with healthy controls. *Neuro Endocrinol Lett*. **36**: 787–92.

- 28 Kadouri A, Corruble E, Falissard B (2007). The improved Clinical Global Impression scale (ICGI): Development and validation in depression. *BMC Psychiatry*. **7**: 7.
- 29 Kamaradova D, Prasko J, Latalova K, Panackova L, Svancara J, Grambal A, Sigmundova Z, Ociskova M, Bares V, Cakirpaloglu S, Jelenova D, Kasalova P, Kovacsova A, Vrbova K (2016). Psychometric properties of the Czech version of the Beck Anxiety Scale – Comparison between diagnostic groups. *Neuro Endocrin Lett*. **36**: 706–712.
- 30 Katschnig H (1997). How useful is the concept of quality of life in psychiatry? *Current Opinion in Psychiatry*. **10**: 337–345.
- 31 Katschnig H (2006). Quality of life in mental disorders: challenges for research and clinical practice. *World Psychiatry*. **5**: 139–45.
- 32 Lehman AF (1983a). The effects of psychiatric symptoms on quality of life assessments among the chronic mentally ill. *Eval Program Plann*. **6**: 143–151.
- 33 Lehman AF (1983b). The well-being of chronic mental patients. *Arch Gen Psychiatry*. **40**: 369–373.
- 34 Lépine JP (2002). The epidemiology of anxiety disorders: prevalence and societal costs. *Journal of Clinical Psychiatry*. **63**: 4–8.
- 35 McLeod JD (1994). Anxiety disorders and marital quality. *Journal of Abnormal Psychology*. **103**: 767–776.
- 36 Mendlowicz MV, Stein MB (2000). Quality of life in individuals with anxiety disorders. *Am J Psychiatry*. **157**: 669–82.
- 37 Müllerova H (2001). Transcultural transmission and validization of the quality life questionnaire Q-LES-Q. [in Czech: Mezikulturní přenos a validace dotazníku kvality života Q-LES-Q.] *Psychiatrie*. **5**: 80–87.
- 38 Mullerova H, Libigerova E, Prouzova M, Blazkova M, Krepela J, Matejkova P, Mrozek J (2001). Cross-Cultural Transfer and Validation of the Quality-of-Life-Enjoyment-and-Satisfaction-Questionnaire in the Population of Depressed Patients. *Psychiatrie*. **5**: 80–86.
- 39 Narud K, Mykletun A, Dahl AA (2005). Quality of life in patients with personality disorders seen at an ordinary psychiatric outpatient clinic. *BMC Psychiatry*. **5**: 10.
- 40 Olatunji BO, Cisler JM, Tolin DF (2007). Quality of life in the anxiety disorders: a meta-analytic review. *Clin Psychol Rev*. **27**: 572–81.
- 41 Penner-Goeke K, Henriksen CA, Chateau D, Latimer E, Sareen J, Katz LY (2015). Reductions in quality of life associated with common mental disorders: results from a nationally representative sample. *J Clin Psychiatry*. **76**: 1506–1512.
- 42 Preiss M, Vacir K. Beck's self-rating scale for adults – BDI-II. [in Czech: Beckova sebesposuzovací škála pro dospělé – BDI-II]. Brno: Psychodiagnostika. 1999
- 43 Rapaport MH, Clary C, Fayyad R, Endicott J (2005). Quality-of-life impairment in depressive and anxiety disorders. *Am J Psychiatry*. **162**: 1171–8.
- 44 Ritsner M, Kurs R, Gibel A, Ratner Y, Endicott J (2015). Validity of an abbreviated Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q-18) for schizophrenia, schizoaffective, and mood disorder patients. *Quality of Life Research*. **14**: 1693–1703.
- 45 Schneier FR, Pantol G (1997). Quality of life in anxiety disorders. *Quality of life in mental disorders*. 149–164.
- 46 Spitzer WO, Dobson AJ, Hall J (1981). Measuring the quality of life of cancer patients: a concise QL-index for use by physicians. *J Chronic Dis*. **34**: 585–597.
- 47 Stastny P, Amering M (1997). Integrating consumer perspectives on quality of life in research and service planning. *Quality of life in mental disorders*. **1997**: 261–269.
- 48 Storch EA, Roberti JW, Roth DA (2004). Factor structure, concurrent validity, and internal consistency of the Beck Depression Inventory—second edition in a sample of college students. *Depression and anxiety*. **19**: 187–189.
- 49 Tothova V, Bartlova S, Dolak F, Kaas J, Kimmer D, Manhalova J, Martinek L, Olisarova V (2014). Quality of life in patients with chronic diseases. *Neuro Endocrinol Lett*. **35**: 11–8.
- 50 Watson HJ, Swan A, Nathan PR (2011). Psychiatric diagnosis and quality of life: the additional burden of psychiatric comorbidity. *Compr Psychiatry*. **52**: 265–72.
- 51 Whisman MA (2007). Marital distress and DSM-IV psychiatric disorders in a population-based national survey. *J Abnorm Psychol*. **116**: 638–643.
- 52 Whisman MA, Sheldon CT, Goering P (2000). Psychiatric disorders and dissatisfaction with social relationships: Does type of relationship matter? *Journal of Abnormal Psychology*. **109**: 803–808.
- 53 World Health Organisation (WHO) (1992). ICD-10: The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines, World Health Organisation (WHO), Geneva.
- 54 World Health Organization (1948): Charter. Geneva, WHO.
- 55 Zaider TI, Heimberg RG, Lida M (2010). Anxiety disorders and intimate relationships: A study of daily processes in couples. *Journal of Abnormal Psychology*. **119**: 163–173.