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Variáveis associadas à qualidade de vida em uma amostra de pacientes de um serviço ambulatorial terciário para transtornos de ansiedade e depressão

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Abstract

Introduction: Health-related quality of life (HRQOL) assessment tools have been broadly used in the medical context. These tools are used to measure the subjective impact of the disease on patients. The objective of this study was to evaluate the variables associated with HRQOL in a Brazilian sample of patients followed up in a tertiary outpatient clinic for depression and anxiety disorders.
Method: Cross-sectional study. Independent variables were those included in a sociodemographic questionnaire and the Hospital Anxiety and Depression Scale (HADS) scores. Dependent variables were those included in the short version of the World Health Organization Quality of Life (WHOQOL-BREF) and the scores for its subdomains (overall quality of life and general health, physical health, psychological health, social relationships, and environment). A multiple linear regression analysis was used to find the variables independently associated with each outcome.
Results: Seventy-five adult patients were evaluated. After multiple linear regression analysis, the HADS scores were associated with all outcomes, except social relationships (p = 0.08). Female gender was associated with poor total scores, as well as psychological health and environment. Unemployment was associated with poor physical health.
Conclusion: Identifying the factors associated with HRQOL and recognizing that depression and anxiety are major factors are essential to improve the care of patients.
Keywords: Quality of life, depression, anxiety.

Resumo

Introdução: Instrumentos para avaliar qualidade de vida relacionada à saúde têm sido amplamente utilizados no contexto médico, visando mensurar o impacto da doença de uma perspectiva subjetiva e relevante ao paciente. O objetivo desse estudo foi identificar variáveis associadas à qualidade de vida em uma amostra de pacientes acompanhados em um ambulatório terciário para transtornos de ansiedade e depressão.
Métodos: Estudo transversal. As variáveis independentes incluíram dados de um questionário sociodemográfico e pontuação na Escala Hospitalar de Ansiedade e Depressão (HADS). Variáveis dependentes: pontuação total na escala breve de qualidade de vida da Organização Mundial de Saúde (WHOQOL-Bref) e cada um de seus subdomínios (geral, físico, psicológico, social e ambiental). Regressão linear múltipla foi aplicada para identificar as variáveis preditoras associadas de forma independente a cada uma das variáveis dependentes.
Resultados: Setenta e cinco pacientes adultos foram avaliados. Após análise de regressão linear múltipla, pontuação na HADS esteve associada com todos os desfechos analisados, exceto para o subdomínio social (p = 0,08). Sexo feminino esteve negativamente associado com a pontuação total da WHOQOL-Bref e com os subdomínios psicológico e ambiental. Desemprego esteve associado com o subdomínio físico.
Conclusão: A identificação de fatores associados à qualidade de vida relacionada à saúde e o reconhecimento de que a depressão e a ansiedade são variáveis fundamentais são essenciais para uma melhor assistência aos pacientes.
Descritores: Qualidade de vida, depressão, ansiedade.

Introduction

Conventional ways of assessing medical outcomes usually consider only specific symptoms of the disease, ignoring the patients' subjective difficulties in their activities of daily living.[1] In regard to chronic disease, these conventional methods may not be fully effective because the goal of the treatment is not to cure the disease but to reduce its burden on several aspects of the patient's life.[2]

Health-related quality of life (HRQOL) assessment tools have been broadly used in the medical context. These tools are used to measure the subjective impact of the disease on patients and try to identify specific variables associated with its burden.[1,3] Quality of life measurement has proven useful for both research and clinical practice because it helps evaluate the benefits of therapeutic interventions and compare the outcomes of different treatments.[2-4]

Depression and anxiety disorders are a global health problem, with significant prevalence and direct and indirect costs.[5] Moreover, the burden associated with these psychiatric disorders includes a broad range of negative aspects, from personal interrelationship problems to productivity loss at work, which substantially impair the patients' HRQOL.[6] Several studies have demonstrated the association between psychiatric disorders and social, environmental, and psychological aspects of quality of life, with an effect size comparable to other serious clinical conditions such as cancer and coronary artery disease.[7,8]

Therefore, the objective of this study was to evaluate the association between sociodemographic and clinical variables, including anxiety and depressive symptoms, and the HRQOL of a Brazilian sample of patients followed up in a tertiary outpatient clinic for depression and anxiety disorders.

Methods

Study design and sample

In this cross-sectional study, patients were followed up in a tertiary outpatient clinic for depression and anxiety disorders at the University Hospital of the Universidade Federal de Santa Catarina, which serves the metropolitan area of Florianópolis (approximately 800,000 habitants) in the state of Santa Catarina, Brazil.

Inclusion criterion was patients aged 18 years or older. Exclusion criteria were intellectual disability diagnosed by clinical evaluation and other health conditions that could prevent the participants from understanding the objectives of the study and completing the protocol, such as hearing impairment. The study was approved by the Human Research Ethics Committee of the Universidade Federal de Santa Catarina. Written informed consent was obtained from all patients.

Measures

Sociodemographic and clinical data included gender, age, marital status, educational level, religion, *per capita* household income, health insurance coverage, duration of the primary psychiatric disorder, and presence of non-psychiatric comorbidity. The presence of a non-psychiatric comorbidity was established when the patient reported any medical condition diagnosed by a medical doctor that could interfere with his or her quality of life as assessed by the authors. We considered the following conditions: *diabetes mellitus*, cardiomyopathy, thyroid disease, bone/muscle diseases, epilepsy, and immunodeficiency syndromes. Educational level was classified into three categories: higher, secondary, and primary education. Religion was categorized into practitioner, non-practitioner, and without religion.

Psychometric test: the Hospital Anxiety and Depression Scale (HADS) is a valid tool for measuring depression and anxiety symptoms in individuals with mental disorders and comorbidity with other clinical conditions.[9] This tool was validated for the Brazilian population.[10] Because of the well-documented high comorbidity between depression and anxiety symptoms,[11] we used HADS total scores instead of its subscales separately.

Quality of life assessment: the short version of the World Health Organization Quality of Life (WHOQOL-BREF) was used for HRQOL evaluation.[12] This scale comprises 26 items that provide a total score in addition to scores for five subdomains: overall quality of life and general health, physical health, psychological health, social relationships, and environment. The WHOQOL-BREF was validated for Brazilian outpatients with depression.[13] Higher scores indicate better quality of life.

Because most participants of our study had low educational level, all assessment tools were administered by an interviewer.

Statistical analysis

A series of simple linear regression analyses were conducted to determine the variables associated with the total scores of the WHOQOL-BREF and each of its subdomains (overall quality of life and general health, physical health, psychological health, social relationships, and environment). The independent variables were gender, age, duration of the psychiatric disorder, educational level, marital status, employment status,

health insurance coverage, HADS score, religion, presence of non-psychiatric disease, and *per capita* household income. Thereafter, we performed a multiple linear regression analysis including only the variables associated with the outcome with a level of statistical significance less than 0.20 in the simple linear regression analysis. Collinearity between the predictor variables was assessed based on the condition index (threshold of 30). In the final model of the multiple linear regression analysis, p < 0.05 was considered statistically significant. The normal distribution of the standardized residuals was analyzed to verify the extent to which the model fit the data. The statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 17.0.

Results

Of the 80 eligible patients, 75 agreed to participate (93%) and were evaluated from May 2013 to June 2014. Their sociodemographic and clinical characteristics are presented in Table 1. Most participants were female (70.7%), their mean age was 40.7 (±13.1 SD) years old, and the mean duration of their psychiatric disorder was 14.3 (±12 SD) years. Only 17.3% had higher education, and approximately half of the sample was married. Most of the sample was employed, and 70% of those unemployed had health insurance coverage. One-third of the participants reported at least one non-psychiatric comorbidity (Table 1).

Table 1 - Sociodemographic, clinical, and quality of life characteristics of 75 patients followed up in a tertiary psychiatric outpatient clinic

Variables	All patients
Gender	
Female	53 (70.7)
Male	22 (29.3)
Age at evaluation (years)	40.7±13.1
Duration of the psychiatric disorder (years)	14.3±12.0
Educational level	
Higher	13 (17.3)
Secondary	36 (48)
Primary	26 (34.7)
Married	
Yes	36 (48.6)
No	38 (51.4)
Employed	
Yes	44 (58.7)
No	31 (41.3)
Health insurance coverage*	
Yes	24 (32.4)
No	50 (67.6)
Religion	
Yes/practitioner	45 (60)
Yes/non-practitioner	20 (26.7)
No	10 (13.3)
HADS	20.2±9
Diagnosis of non-psychiatric disorder[†]	
No	49 (65.3)
Yes	26 (34.7)
Per capita household income,[‡] median (IQR)	5045 (3375-8182)
WHOQOL-BREF physical health	48.4±20.2
WHOQOL-BREF psychological health*	45.4±21.1
WHOQOL-BREF social relationships	49±21.8
WHOQOL-BREF environment	53.6±14.8
WHOQOL-BREF overall quality of life/general health	49±21
WHOQOL-BREF total scores*	49.2±16.2

Data presented as n (%) or mean ± standard deviation, unless otherwise stated.
HADS = Hospital Anxiety and Depression Scale; IQR = interquartile range; WHOQOL-BREF = short version of the World Health Organization Quality of Life scale.
* One missing.
[†] Cardiopathy, *diabetes mellitus*, thyroid disorders, bone/muscle diseases, epilepsy, immunodeficiency syndromes.
[‡] Annual, in dollars; distribution violated assumptions for parametric testing.

Based on the cutoff scores for the HADS-A (subscale anxiety) and HADS-D (subscale depression) suggested by a cross-sectional study,[14] 76% and 65% of our sample would be screened for generalized anxiety disorder and major depression episode, respectively, and 53% of the sample would be screened positive for both disorders, a percentage similar to that found in the literature.[11] In addition, 92% of our sample had at least a mild level of depression and anxiety symptoms at evaluation. After the analysis of collinearity, the variable health insurance coverage was removed from the final model of the WHOQOL-BREF total scores, physical, psychological, social, and environment subdomains.

WHOQOL-BREF total scores

The predictor variables gender, age, educational level, employment status, health insurance coverage, HADS score, and religion were associated with the WHOQOL-BREF total score in the simple linear regression. In addition to these variables, duration of psychiatric disorder, non-psychiatric comorbidity, and *per capita* household income had a trend for association (Table 2) and were included in the multiple linear regression analysis. In the final model, female gender and higher HADS scores were independently associated with poor WHOQOL-BREF total scores. The model explained 70% of the variability of the outcome (Table 3).

Table 2 - Variables associated with the short version of the World Health Organization Quality of Life (WHOQOL-BREF) total score domain

Predictive variables	R	R²	B coefficient	p
Gender	0.40	0.16	-14.3	0.000
Age at evaluation	0.37	0.14	-0.45	0.001
Duration of the psychiatric disorder	0.22	0.05	-0.30	0.06
Educational level	0.45	0.20	-10.3	0.000
Marital status	0.15	0.02	4.8	0.21
Employment	0.50	0.25	-16.29	0.000
Health insurance coverage	0.41	0.17	13.8	0.000
Hospital Anxiety and Depression Scale (HADS) scores	0.81	0.66	-1.46	0.000
Religion	0.31	0.10	7	0.006
Diagnosis of non-psychiatric disorder	0.19	0.03	-6.33	0.11
Per capita household income	0.20	0.04	0.001	0.10

Table 3 - Predictive model showing the variables independently associated with the short version of the World Health Organization Quality of Life (WHOQOL-BREF) total score domain

Predictive variables	B coefficient (95%CI)	p
Gender	-6.25 (-11.13 to -1.37)	0.01
Hospital Anxiety and Depression Scale (HADS) total scores	-1.18 (-1.47 to -0.90)	0.000

95%CI = 95% confidence interval.
R = 0.86; R² = 0.70; F = 20.06; p = 0.000.

WHOQOL-BREF general health domain

After simple linear regression (data not shown), all variables, except marital status, diagnosis of non-psychiatric disorder, and religion, were included in the final model. After the multiple linear regression analysis, only the HADS scores were independently associated with poor general health. The model explained 40% of the variability of the outcome (p < 0.000) (Table 4).

Table 4 - Multiple linear regressions showing the variables independently associated with the short version of the World Health Organization Quality of Life (WHOQOL-BREF) domains

Domains	Physical		Psychological		Social		Environment		Overall QoL	
	B coefficient (95%CI)	p	B coefficient (95%CI)	p	B coefficient (95%CI)	p	B coefficient (95%CI)	p	B coefficient (95%CI)	p
Gender	NS	-	-7.46 (-14.45 to -0.47)	0.04	NS	-	-8.30 (-14.04 to -2.56)	0.005	NS	
HADS total scores	-1.38 (-1.77 to -0.99)	0.000	-1.56 (-1.97 to -1.15)	0.000	NS*	-	-0.92 (-1.27 to -0.58)	0.000	-1.29 (-1.79 to -0.78)	0.000
Employment	-9.05 (-16.26 to -l.84)	0.01	NS	-	NS	-	NS	-	NS	
	R = 0.84; R² = 0.66; F = 15.3; p = 0.000;		R = 0.82; R² = 0.64; F = 16.84; p = 0.000;		R = 0.52; R² = 0.18; F = 3.06; p = 0.005;		R = 0.74; R² = 0.50; F = 9.92; p = 0.000;		R = 0.67; R² = 0.40; F = 7.8; p = 0.000;	

95%CI = 95% confidence interval; HADS = Hospital Anxiety and Depression Scale; NS = non-significant; QoL = quality of life.
* Trend for association (p = 0.08).

WHOQOL-BREF physical domain

After simple linear regression (data not shown), all variables were included in the final model. After multiple linear regression analysis, only higher HADS scores and unemployment were independently associated with poor physical scores. The model explained 66% of the variability of the outcome (p < 0.000) (Table 4).

WHOQOL-BREF psychological domain

After simple linear regression (data not shown), all variables, except psychiatric disorder and marital status, were included in the final model. After multiple linear regression analysis, only female gender and higher HADS scores were independently associated with poor psychological scores. The model explained 64% of the variability of the outcome (p < 0.000) (Table 4).

WHOQOL-BREF social domain

After simple linear regression (data not shown), all variables, except marital status and *per capita* household income, were included in the final model. After multiple linear regression analysis, only higher HADS scores had a trend for association with poor social scores in the final model (p = 0.08) (Table 4).

WHOQOL-BREF environment domain

After simple linear regression (data not shown), all variables, except duration of the psychiatric disorder and diagnosis of a non-psychiatric disorder, were included in the final model. After multiple linear regression analysis, only female gender and higher HADS scores were independently associated with poor environment scores. The model explained 50% of the variability of the outcome (p < 0.000) (Table 4).

Residuals from all multiple linear regression analyses had a normal distribution (data not shown).

The total time required for the administration of the assessment tool was approximately one hour.

Discussion

Considering the sociodemographic and clinical variables analyzed, our findings demonstrated that only gender, depression and anxiety symptoms, and employment status were independently associated with one or more HRQOL domains in the final models of multiple linear regressions. Female gender was independently associated with poor HRQOL for all domains, except physical health, social relationships, and overall quality of life and general health. Unemployment was associated only with physical health according to the multiple linear regression analysis. The HADS scores were independently associated with all HRQOL domains, except social relationships, which had a trend for association.

In disagreement with our results, marital status is commonly associated with HRQOL in the literature. Daly et al. found an association between unmarried patients and poor HRQOL even after adjusting for age and severity of depressive symptoms.[15] Similar results were found by Nyer et al. These authors found that, in addition to the association with better quality of life, marriage conferred protection against suicidal ideation in patients with schizophrenia and depressive symptoms.[16] Stroppa & Moreira-Almeida found an association between religiosity and fewer depressive symptoms and improved quality of life in patients with bipolar disorder.[17] Despite the association between religion and most HRQOL domains in the linear regression analysis, this association was not present in any of our multiple linear analyses.

Female gender and older age were associated with lower HRQOL scores in community surveys not considering psychiatric symptoms.[18,19] Galvão et al. found an association between psychiatric disorders evaluated by the Self-Reporting Questionnaire (SRQ-20)[20] and worse Medical Outcomes Study 36-item Short-Form Health Survey (SF-36) scores[21] in women with low level of education, low family income, and in unemployed women. However, the analysis did not adjust for confounders, making it difficult to exclude interactions between the predictors.[22]

Similarly to our results, in a study with 1,466 patients from Brazilian primary health care units evaluated using the WHOQOL-BREF, the HADS, and a sociodemographic questionnaire, Portugal et al. found an association between higher depression and anxiety symptoms and lower quality of life, particularly in females older than 40 years of age. Nevertheless, the authors also did not adjust for possible confounders.[23]

In our study, depression and anxiety symptoms measured by HADS scores were associated with all WHOQOL domains in the multiple linear regressions, except for social relationships, which had a trend for association. This independent association could be found for all WHOQOL domains with a larger sample size. These results are in agreement with the study by D'Avanzato et al., in which the authors found an association between levels of anxiety and worse HRQOL scores in all domains. Furthermore, they reported a correlation between anxiety symptoms

and higher scores of dissatisfaction with mental and physical health, in addition to impairment in leisure and friendship activities.[24]

The negative association between quality of life and anxiety and depression symptoms measured by the HADS was also found in the study by Brett et al. in a population of 1,641 elderly persons in a linear regression analysis.[18] Depression increases the feeling of functional disability, impairs the quality of social relationships and treatment adherence, and contributes to substantial impairment in the patient's quality of life.[25,26] Our results reinforced that, in a Brazilian sample from a tertiary outpatient clinic, psychiatric symptoms, especially depression, have a negative impact on patients, even considering any variable or medical disease.[27,28]

Our study has some limitations. The cross-sectional design did not allow us to infer a causal relationship between poor quality of life and psychiatric disorders. Additionally, our sample was from a tertiary outpatient clinic; thus limiting the generalization of the results for patients with less severe symptoms. Also, information on physical activity, which is an important predictor of quality of life,[29,30] was not collected.

Conclusion

Depression and anxiety symptoms were independently associated with all HRQOL domains in our study, except social relationships, which had a trend for association. HRQOL has received substantial attention in medical research and has been used as the primary outcome in clinical trials, with the reduction of clinical symptoms becoming a secondary outcome.[3,31] Therefore, identifying the factors associated with HRQOL and recognizing that depression and anxiety are major factors is essential to improve the care of patients.

Acknowledgements

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