

# Evaluation of quality of life and importance given to spirituality/religiousness/personal beliefs (SRPB) in adults with and without chronic health conditions

Avaliação de qualidade de vida e importância dada a espiritualidade/religiosidade/crenças pessoais (SRPB) em adultos com e sem problemas crônicos de saúde

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## Abstract

**Background:** There is a lack of studies seeking to elucidate the association of religiousness with quality of life, comparing sick and healthy people, regardless the type of disease and age group. **Objective:** To examine the association between: (1) presence of a chronic health condition and the importance given to spirituality/religiousness/personal beliefs (SRPB); (2) presence of a chronic health condition and quality of life (QOL) adjusted for age, socioeconomic level and depressive symptoms; (3) QOL and importance given to SRPB, also adjusted for the same factors. **Design:** cross-sectional study. Participants: n = 241 consisted of 122 in- and outpatients from a university hospital and 119 religious healthy subjects from community. Measurements: a) WHOQOL-100 (QOL); b) BDI (depressive symptoms); c) WHOQOL-SRPB – scale of importance assigned to the facets of the Spirituality/Religiousness/Personal Beliefs Module of WHOQOL-100 to measure importance given to religiousness. **Results:** Patients in comparison to healthy subjects showed worse scores in most WHOQOL-100 domains. The patients' mean score of the WHOQOL-SRPB was 97.2 compared to the healthy subjects' mean score = 92.9 (P = 0.03). After using a multiple regression model, the WHOQOL-SRPB appears positively associated with the psychological, the social relationships, the environment, the SRPB domains and general QOL (beta = 0.17; beta = 0.12; beta = 0.11; beta = 0.72; beta = 0.10, respectively), when adjusted for age, SEL, BDI and the presence of a chronic health condition. **Discussion:** The more important is the SRPB for these people, the better is their QOL in most of their domains, independently of other factors involved. This finding may be taken into account when planning interventions to improve QOL of chronic health patients.

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**Keywords:** Quality of life, religiousness, chronic health conditions, WHOQOL.

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## Resumo

**Contexto:** Não existem estudos avaliando a associação entre religiosidade e qualidade de vida, comparando pessoas doentes e saudáveis, independentemente do tipo de doença e da idade. **Objetivo:** Verificar a associação entre: (1) presença de uma doença crônica e a importância dada à espiritualidade/religiosidade/crenças pessoais (SRPB); (2) presença de um problema crônico de saúde e qualidade de vida (QV), ajustada para fatores como idade, nível socioeconômico (NSE) e sintomas depressivos; (3) QV e a importância dada à SRPB, também ajustada para os mesmos fatores. **Delineamento:** estudo transversal. Sujeitos: n = 241, sendo 122 pacientes internados e ambulatoriais com alguma doença crônica, provenientes de um hospital universitário, e 119 indivíduos saudáveis membros ativos de comunidades religiosas. Instrumentos: a) WHOQOL-100 (QV); b) BDI (sintomas depressivos); c) WHOQOL-SRPB – escala de importância dada às facetas do módulo de SRPB do WHOQOL-100 (importância dada à SRPB). **Resultados:** Pacientes mostraram piores escores que os saudáveis na maioria dos domínios do WHOQOL-100, com exceção do domínio do SRPB. Os pacientes (média = 97,2 ± 13,0) tiveram escores mais altos que os saudáveis (média = 92,9 ± 16,4) na avaliação de importância dada à SRPB (P = 0,03). Usando um modelo de regressão múltipla, a importância dada à SRPB aparece positivamente associada com os domínios geral, psicológico, relacionamento social, ambiente e SRPB do WHOQOL-100 (beta = 0,10; beta = 0,17; beta = 0,12; beta = 0,11; beta = 0,72, respectivamente; P < 0,05), quando ajustado para idade, NSE, sintomas depressivos e a presença de um problema crônico de saúde. **Conclusão:** A importância da SRPB aparece positivamente associada com a QV na maioria de seus domínios, independentemente de outros fatores envolvidos. Esse achado pode ser considerado ao se planejarem intervenções para a melhoria da QV de pacientes acometidos por problemas crônicos de saúde.

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**Palavras-chave:** Qualidade de vida, religiosidade, condições crônicas de saúde, WHOQOL.

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## Introduction

There is growing evidence that religiousness is associated with mental health. In a systematic review of approximately 200 articles, a positive association was shown in 50% of the cases and a negative one in 25%. In this review, religiousness was considered a protective factor against suicide, drug abuse and alcohol, delinquent behavior, marital satisfaction, psychological suffering and psychoses<sup>1</sup>. Some researchers have observed increased religiousness during negative life events, which include falling ill<sup>1-4</sup>. On the other hand, the connection with

religion may be both a source of relief and discomfort depending on how the person relates to it<sup>3,5</sup>.

Although there are many studies related to the evaluation of religiousness, they present a number of methodological limitations. Reviewing the subject, Sloan *et al.*<sup>6</sup> have pointed out that genetic, behavioral and variable differences such as age, gender, education, ethnic group, socioeconomic level and the presence of a physical illness may be important confounding biases in these studies. In a latest review<sup>7</sup>, the authors ascertained that the majority of well-conducted studies found that higher levels of religious involvement

are positively associated with indicators of psychological well-being (life satisfaction, happiness, positive affect, and higher morale) and with less depression, suicidal thoughts and behavior, drug/alcohol use/abuse. Usually the positive impact of religious involvement on mental health is more robust among people under stressful circumstances (the elderly, and those with disability and medical illness).

Another difficulty is how to measure religiousness. The evaluation of religiousness is done in different ways in the different studies<sup>8,9</sup>. Generally, the religiousness variable is evaluated as to affiliation (for instance, Catholic, Buddhist and etc.), or religious practice (practicing/non-practicing), or frequency of attendance to religious services (weekly, monthly, etc.). These strategies are known to be limited to the study of just one variable of complex aspect such as religiousness in patient's life<sup>8,10</sup>.

Independently of its effect on the evolution of diseases, this dimension has been identified as very relevant and an important domain to be taken into account when evaluating quality of life<sup>11-16</sup>. As an example of acknowledging the importance of the spiritual dimension, the World Health Organization, included a domain on spirituality/religiousness/personal beliefs<sup>17</sup> in its instrument for the evaluation of quality of life (WHOQOL)<sup>14</sup>.

Since most of the studies refer to populations of aged patients, with chronic or terminal diseases, there is a lack of studies seeking to elucidate the association of religiousness with quality of life, comparing sick and healthy people, regardless the type of disease and the age group, using a more defined concept of the attitudes and beliefs to non-material dimension. Brazilian Center of WHOQOL Group found interesting results using focus group technique. Most patients and religious groups highlighted the importance of studying spiritual/religious issues in health care. On the other hand, health professionals and atheistic groups disagreed with the former. Brazilian people have strong faith in God and Spiritual dimension; this becomes evident through the diverse range of religious commitment they have<sup>18</sup>. Many people in Brazil credit their health improvement to spiritual forces rather than medical treatment. It would be of great interest to verify if this kind of behavior can improve their quality of life.

The objectives of the present study are to examine the association between (1) presence of a chronic health condition and the importance given to religiousness; (2) presence of a chronic health condition and quality of life; (3) QOL and importance given to religiousness, adjusted for age, socioeconomic level and depressive symptoms.

## Method

Data collection was performed in the wards and outpatient clinic in a tertiary hospital in Brazil, and in the community, based on the religious centers, during a three month-period. After obtaining informed consent, the interviewers performed a brief interview with the participants, collecting the demographic and health-related variables. The other variables were obtained through self-report instruments under the supervision of the interviewers.

The design was a cross-sectional study.

The sample was selected according to convenience, both for the patients and for the healthy group. For the patients group, the research team contacted the senior nurse of the unit (clinical, ambulatory or surgery) who provided a list of eligible subjects who were selected if they had clinical conditions to answer the questionnaires. For the group of healthy individuals, the "snow-ball" technique was used (each individual selected indicated one more participant<sup>19</sup> who attended temples and places of prayer close to the geographical area of the hospital). Afterwards, each healthy individual was paired (age, gender and religion) with a patient for ensuring pairing.

The choice of religions was performed based on the prevalence of the religious groups in the Brazilian population. The percentages of religions in Brazil are: 72% Catholics, 15% Protestants (evangelical), 5% Spiritist, 3% African-Brazilian religions and 5% atheists<sup>20</sup>.

**Inclusion criteria for individuals in the group of patients with chronic health conditions:** Adult patients (18 or older) chosen among those seen at Hospital de Clínicas de Porto Alegre, in

the inpatient unit and outpatient clinic in the various clinical (e.g. Internal Medicine, Cardiology, Nephrology, Neurology, Psychiatry etc.) and surgical specialties who presented clinical conditions and agreed to participate in the study.

**Inclusion criteria for the group of healthy individuals without chronic health conditions:** Adult individuals from the community (18 or older), from the geographical area close to the hospital, who did not have any clinically detectable disease. The individuals who answered affirmatively to any of the questions below were excluded from the sample:

- Do you have any chronic disease?
- Do you currently use any medication regularly?
- Have you consulted any physician or health professional during the last month (except for preventive care, such as gynecological check-up)?

Religious belief and commitment were defined by self-evaluation, independently if the subject came from healthy or patient groups. In the case of atheists, they should consider themselves as such.

## Measurements

- **WHOQOL-SRPBi:** Is a measure of importance given to the facets of the WHOQOL-SRPB, this is calculated by the total sum of scores given to the questions relating to the degree of importance assigned to its facets. It was used here to evaluate the importance of this dimension. The WHOQOL-SRPB is a cross-cultural self-report instrument developed by the World Health Organization (WHO), involving over 15 centers throughout the world, to evaluate religiousness, spirituality and personal beliefs related to QOL using eight facets: connection with a spiritual being or force, inner peace/serenity/harmony, meaning of life, admiration, totality/integration, spiritual strength, faith and hope/optimism. The pilot study with a preliminary psychometric analysis showed correlations between the facet between 0.51 to 0.91 and total alpha = 0.91<sup>17</sup>. The WHOQOL-SRPB measures SRPB related to QOL and WHOQOL-SRPBi measures the importance given by the person to the aspects evaluated by the WHOQOL-SRPB.

- **WHOQOL-100:** Cross-cultural self-report instrument organized by the WHO to evaluate QOL through six domains: physical, psychological, environment, social relationships, level of independence and spirituality/religiousness/personal beliefs<sup>17,21,22</sup>.

- **Beck Depression Inventory (BDI) and Beck Hopelessness Scale (BHS):** Self-report instruments, validated and translated into Portuguese, which evaluate depressive symptoms (BDI) and hopelessness (BHS) in the weeks preceding their use<sup>23,24</sup>.

- **Economic Classification Criterion - Brazil:** This classification evaluates the economic level of the subject considering consumer goods and educational level. In this classification, each consumer good (e.g. refrigerator, television, telephone, etc.) receives a certain value, and the final score is this sum of these values plus the value related to the educational level. This final score can be also classified in classes which can vary among A, B, C, D, E. Through this criterion, 71% of city population where this study was carried out belongs to poor economic classes<sup>25</sup>. This instrument was applied by the interviewers.

All the individuals invited to participate in the study completed a written consent presenting the objectives of the study. The Ethics Research Committee at Hospital de Clínicas de Porto Alegre (HCPA) approved the project.

## Analysis

The following tests were used: Student T test to compare means; Pearson's Chi-square, with Yates correction when necessary, to compare the proportions of the categorical variables; Multiple Linear Regression to control confounding biases and co-variables. The level of significance used was 5% for most tests except for Multiple Regression, in which the 10% level was used. The statistical program used was SPSS 10.0.

**Results**

The main characteristics of the sample are presented in table 1. The health problems most frequently presented by the patients were: hypertension 18%, heart diseases 15.6%, neoplasm 13.1%, diabetes 13.1%, emphysema/asthma/bronchitis 11.5%, autoimmune diseases 8.2%, and chronic kidney diseases 8.2%.

Patients had mean scores significantly lower in most domains of QOL, including QOL in general, except for the domain of SRPB, where patients had a slight higher mean, but this difference was not statistically significant as shown in table 2.

Comparing patients and healthy individuals as to the measure of importance given to spirituality/religiousness/personal beliefs (WHOQOL-SRPBi), patients had significantly higher scores than healthy individuals.

Since, despite pairing, there were significant differences between patients and healthy individuals in the main variables of interest (age, socioeconomic level, marital status and BDI scores) and these may be correlated to religiousness ( $r^2_{age} = 0.19$ ;  $r^2_{SEL} = -0.14$ ;  $r^2_{BDI} = -0.08$ ;  $P < 0.05$ ), we control statistically the differences found in religiousness through a multiple linear regression model.

**Table 1.** General characteristics of the subjects

	Patients N = 122	Healthy N = 119	P Value
Sex (%)			
Male	66 (54.1%)	60 (50.4%)	0.66 <sup>a</sup>
Female	56 (45.9%)	59 (49.6%)	
Age Mean ± SD	45.15 ± 15.54	39.38 ± 15.3	0.001 <sup>c</sup>
Educational level			
Primary school	71 (58.2%)	22 (18.5%)	0.0001 <sup>b</sup>
High school	32 (26.2%)	30 (25.2%)	
Graduation	14 (11.5%)	60 (50.4%)	
Post-graduation	5 (4.1%)	7 (5.9%)	
Religion			
Catholic	89 (73.0%)	85 (71.3%)	0.86 <sup>b</sup>
Evangelical	17 (13.9%)	16 (13.4%)	
Spiritualist	6 (4.9%)	5 (4.2%)	
Afro-Brazilian	4 (3.3%)	3 (2.5%)	
Atheist	6 (4.9%)	10 (8.4%)	
Marital status (%)			
Single	29 (23.8%)	46 (38.7%)	0.05 <sup>b</sup>
Married	57 (46.7%)	53 (44.5%)	
Living as married	15 (12.3%)	4 (3.4%)	
Separated	7 (5.7%)	4 (3.4%)	
Divorced	3 (2.5%)	6 (5%)	
Widowed	11 (9%)	6 (5%)	
Socio-economic Level social class			
A*	10 (8.2%)	47 (39.5%)	0.0001 <sup>b</sup>
B	38 (31.1%)	41 (34.5%)	
C	62 (50.8%)	28 (23.5%)	
D	11 (9.0%)	3 (2.5%)	
E	1 (0.8%)	0	
Health Status (%) (self-report)			
Very bad	5 (4.1%)	2 (1.7%)	0.001 <sup>b</sup>
Bad	13 (10.7%)	0	
Neither bad nor good	47 (38.5%)	8 (6.7%)	
Good	49 (40.2%)	53 (44.5%)	
Very good	8 (6.6%)	56 (47.1%)	
Total BDI Mean ± SD	10.55 ± 8.46	5.54 ± 5.68	0.001 <sup>c</sup>
Total BHS Mean ± SD	3.68 ± 3.16	2.76 ± 2.65	0.005 <sup>c</sup>

<sup>a</sup> Chi-square test with Yates' correction.

<sup>b</sup> Pearson's Chi-square test.

<sup>c</sup> t student test to compare means of independent samples.

\* Highest socio-economic class according to Economic Classification Criterion – Brazil, 2006.

BDI: Beck Depression Inventory; BHS: Beck Hopelessness Scale.

**Table 2.** Comparison of WHOQOL-100 domains and WHOQOL-SRPBi between patients and healthy

WHOQOL Domains	Patients N = 122 Mean ± SD	Healthy N = 119 Mean ± SD	P Value <sup>a</sup>
Physical	50.02 ± 15.10	64.25 ± 3.64	0.001
Psychological	62.72 ± 12.25	69.10 ± 1.82	0.001
Independence level	55.76 ± 19.43	80.24 ± 1.25	0.001
Social relationships	67.68 ± 13.97	72.67 ± 2.43	0.005
Environment	56.91 ± 10.90	63.48 ± 0.42	0.001
SRPB	71.33 ± 18.93	68.96 ± 0.49	0.35
General QOL	68.18 ± 12.92	79.29 ± 2.04	0.001
WHOQOL-SRPBi	97.20 ± 12.97	92.9 ± 16.43	0.001

<sup>a</sup> t Student test for independent samples.

Only the socioeconomic level variable was included in the model. Years of study and level of education were excluded for colinearity reasons. The same rationale was used to include the variable *BDI* and exclude *BHS* (Beck Inventory of Hopelessness).

The importance given to SRPB is positively associated with the majority of the quality of life domains of WHOQOL-100, including quality of life in general, even when other factors such as age, SEL, depressive symptoms and the presence of a chronic health condition are taken into account. The highest correlations are found with the SRPB domain (beta = 0.72;  $P < 0.0001$ ) and the psychological domain (beta = 0.17;  $P < 0.0001$ ), followed by the domains of social relationships (beta = 0.12;  $P < 0.05$ ), environment (beta = 0.11;  $P < 0.10$ ) and quality of life in general (beta = 0.10;  $P < 0.10$ ).

The presence of a chronic health condition is negatively correlated to the physical domain, level of independence and quality of life in general (beta = -0.32; beta = -0.48; beta = -0.22, respectively).

Another important finding is the participation of depressive symptoms with negative correlations in all quality of life domains<sup>26</sup>.

The socioeconomic level appears to be negatively correlated only to the domains of social relationships and environment.

**Discussion**

The present study showed differences in the importance given to SRPB between groups of patients and healthy individuals. This difference may be underestimated in the present study, since the healthy individuals were practicing members of their religion and therefore would tend to have higher religiousness scores than the population at large. Therefore, the difference can be accounted for: 1) the increased need of support presented by the patients in order to face the demands associated with falling ill<sup>3,27-30</sup>, 2) the possibility that sick individuals seek a meaning or explanation for the fact that they had fallen ill<sup>31</sup>, or, 3) an attempt at healing through faith<sup>32</sup>. Since all patients are in treatment in a hospital, all possible explanations are not mutually excluding.

As to QOL, it can be seen that the presence of a chronic health condition may be associated with worsening in most domains, except the SRPB domain. In this domain, the scores are higher in sick people. This finding suggests that the SRPB domain may not be appropriate to demonstrate the differences between healthy and sick individuals<sup>17,33</sup>.

It is interesting to note that when one analyzes the impact of religiousness on the different domains of quality of life, it is observed that this may be positively associated with most of its domains. Spirituality/religiousness/personal beliefs importance (measured by WHOQOL-SRPBi) is positively correlated to the psychological domain, social relationships, environment, and QOL and, obviously, with SRPB even after the adjustment for socioeconomic level, depressive symptoms, age and the presence of a chronic health condition. This finding is in agreement with the current literature that shows the relationship between religiousness and better social relationships<sup>1,34</sup>. Also, as regards the psychological domain, it is well known how much

**Table 3.** Multiple regression for interest factors and WHOQOL-100 domains

Dependent variable	Physical	Psychological	Independence level	Social relationships	Environment	SRPB	General QOL
Factors							
WHOQOL-SRPBi	-0.009	0.17 <sup>b</sup>	-0.03	0.12 <sup>b</sup>	0.11 <sup>c</sup>	0.72 <sup>a</sup>	0.10 <sup>c</sup>
Age	0.06	0.08	0.03	-0.03	0.13 <sup>b</sup>	0.03	0.18
SEL	-0.04	0.10	-0.002	0.20 <sup>b</sup>	0.30 <sup>a</sup>	-0.03	0.11
BDI	-0.42 <sup>a</sup>	-0.56 <sup>a</sup>	-0.39 <sup>a</sup>	-0.44 <sup>a</sup>	-0.34 <sup>a</sup>	-0.21 <sup>a</sup>	-0.47 <sup>a</sup>
Chronic health condition	-0.32 <sup>a</sup>	-0.05	-0.48 <sup>a</sup>	0.03	-0.10	0.02	-0.22 <sup>b</sup>
R <sup>2</sup>	0.34	0.42	0.50	0.28	0.33	0.60	0.41

<sup>a</sup> P < 0.0001.

<sup>b</sup> P < 0.05.

<sup>c</sup> P < 0.10.

religiousness can be associated with lower levels of depression<sup>35,36</sup>, higher indices of hope and well-being<sup>37</sup>, which could also account for the positive correlation with quality of life in general.

The role of the socioeconomic level in the findings makes us seek for explanations. In Brazil, the people with a lower socioeconomic level often find it much easier to achieve access to the religious centers than to the health services<sup>38</sup>. Furthermore, people with a lower socioeconomic level may have less explanatory models that compete with religion due to an issue of associated cultural level.

The data in the present study indicate that between religiousness and the presence of a chronic health condition, there are variables that interrelate and, therefore, a linear model of cause and effect, as well as a cross-sectional approach does not apply to the complexity of the phenomenon.

Based on our data and those found in literature, the study of attitudes and beliefs related to non-material dimension of life is clearly complex. Even having adjusted statistically our results by a multiple regression model, it is necessary to have a longitudinal approach to assess all confounding and reverse causation that could account for correlations found.

The data presented suggested that beliefs and attitudes related to non-material dimension should be considered as an important factor in the process of falling ill. Our findings points to the importance of religiousness for patients' life during this process, these may be taken into account when planning intervention aiming to improve their QOL. It is evident that religiousness is a relevant aspect to be evaluated when assessing QOL. In this respect, is recommended that other generic QOL instruments, which don't include this facet in their conceptual model, could be revised to incorporate the assessment of the attitudes to this unique dimension.

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