

# Quality of life of patients with cardiovascular diseases and its relationship with religiosity/spirituality

Calidad de vida de pacientes con enfermedades cardiovasculares y su relación con la religiosidad/espiritualidad

Qualidade de vida de pacientes com doenças cardiovasculares e sua relação com religiosidade/espiritualidade

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#### Abstract

The aim was to identify evidence on the association of religiosity/spirituality with the quality of life of patients with cardiovascular diseases, in national and international literature. This is an integrative review carried out in the databases MEDLINE/PubMed, Embase, CINAHL, Scopus and PsycInfo. A search was also performed on the VHL database platform. Among the 1082 articles selected, only eight met the inclusion criteria and were analyzed according to: author, year and country where the study was developed, study design and size, intervention/predictor, study objectives, and outcomes related to religiosity/spirituality, as well as the level of evidence. The analysis of these studies allowed the identification of four main approaches: the country of origin of the studies found, the profile of the person with cardiovascular disease, the type of instrument used to identify variables related to religiosity/spirituality, quality of life and practices religious. It is concluded that regardless of the characteristics of the population studied, there is an association or positive correlation between religiosity/spirituality and quality of life in people with cardiovascular disease and one should consider the religiosity/spirituality of each patient and understand that quality of life also involves dimensions like your beliefs.

Descriptors: Religion; Spirituality; Quality of Life; Heart Diseases; Review.

#### Resumén

El objetivo fue identificar evidencias sobre la asociación de la religiosidad/espiritualidad con la calidad de vida de pacientes con enfermedades cardiovasculares, en la literatura nacional e internacional. Esta es una revisión integradora realizada en las bases de datos MEDLINE/PubMed, Embase, CINAHL, Scopus y PsycInfo. También se realizó una búsqueda en la plataforma de base de datos de la BVS. Entre los 1082 artículos seleccionados, solo ocho cumplieron con los criterios de inclusión y fueron analizados según: autor, año y país donde se desarrolló el estudio, diseño y tamaño del estudio, intervención/predictor, objetivos del estudio y resultados relacionados con la religiosidad/espiritualidad, así como así como el nivel de evidencia. El análisis de estos estudios permitió identificar cuatro enfoques principales: el país de origen de los estudios encontrados, el perfil de la persona con enfermedad cardiovascular, el tipo de instrumento utilizado para identificar variables relacionadas con la religiosidad/espiritualidad, calidad de vida y prácticas religioso. Se concluye que independientemente de las características de la población estudiada, existe asociación o correlación positiva entre religiosidad/espiritualidad y calidad de vida en personas con enfermedad cardiovascular y se debe considerar la religiosidad/espiritualidad de cada paciente y entender que la calidad de vida también involucra dimensiones como tus creencias.

Descriptores: Religión; Espiritualidad; Calidad de Vida; Cardiopatías; Revisión.

### Resumo

Objetivou-se identificar evidências sobre a associação da religiosidade/espiritualidade com a qualidade de vida de pacientes com doenças cardiovasculares, na literatura nacional e internacional. Trata-se de uma revisão integrativa realizada nas bases de dados, MEDLINE/PubMed, Embase, CINAHL, Scopus e PsycInfo. Uma busca foi feita, também, na plataforma de base dados BVS. Dentre 1082 artigos selecionados, apenas oitos atendiam aos critérios de inclusão e foram analisados quanto à: autor, ano e país onde foi desenvolvido o estudo, delineamento do estudo e tamanho, intervenção/preditor, objetivos do estudo, e desfechos relacionados à religiosidade/espiritualidade, bem como o nível de evidência. A análise desses estudos permitiu a identificação de quatro enfoques principais: o país de origem dos trabalhos encontrados, o perfil da pessoa com doença cardiovascular, o tipo de instrumento utilizado para identificação das variáveis relacionadas à religiosidade/espiritualidade, a qualidade de vida e as práticas religiosas. Conclui-se que independentemente das características da população estudada, há associação ou correlação positiva entre religiosidade/espiritualidade de vida em pessoas com doença cardiovascular e deve-se considerar a religiosidade/espiritualidade de cada paciente e compreender que a qualidade de vida também envolve dimensões como suas crenças.

Descritores: Religião; Espiritualidade; Qualidade de Vida; Cardiopatias; Revisão.



### Introduction

Cardiovascular diseases (CVDs) encompass disorders of the heart and blood vessels and according to the World Health Organization (WHO), were responsible for more than 17.9 million deaths worldwide in 2016, being the leading cause of morbidity and mortality in the world. It is also known that the impacts of CVDs on the quality of life (QOL) of patients are great, due to the diversity and quantity of symptoms<sup>1-3</sup>.

Quality of life is a comprehensive concept impacted by physical and mental health, level of independence, social relationships and relationships with the environment. It is defined as an individual's perception of an individual's position in life, in the context of their culture and value system in which they are embedded and in relation to their goals, expectations, standards and concerns. The QOL of an individual can also be influenced by spirituality and/or religiosity<sup>4,5</sup>.

According to the WHO, spirituality includes beliefs of an immaterial nature that life is beyond what can be perceived or understood, involving questions about the meaning and purpose of life, not limited to any belief or practice. Religiosity is defined as the extent to which an individual believes, follows and practices their belief, through participation in religious groups, reading religious books, prayers and prayers. Patients and healthcare professionals have realized the value of faith, hope and compassion in the healing process. With this, the maturing of the view that the person is just a body has become less and less acceptable<sup>5,6</sup>.

The relationships between spiritual issues in health and QoL have been studied in an attempt to obtain a more holistic view, with the connectivity of body and mind, and the increase in the amount of evidence associating religiosity and spirituality (R/S) in health outcomes and QoL. Also, it has been studied as a way of coping with chronic diseases, as they offer strategies for patients to deal with their disease<sup>5,7</sup>.

The literature on the association or correlation between R/S and the QOL of patients with heart disease is scarce, with only one review study being identified, which was carried out with a different search strategy proposed here. In addition, it included only four databases and articles published, until 2017, only in English, which justifies the development of this integrative review8.

Therefore, the objective was to identify evidence in the national and international literature on the association or correlation of religiosity and/or spirituality with the QoL of patients with cardiovascular diseases.

### Methodology

This is an integrative literature review that had the following steps: 1. Problem formulation (guiding question); 2. Survey of articles; 3. Analysis and interpretation of data and, 4. Presentation of results9.

The PECO strategy was used corresponding to the acronym: P: Patient=patients with cardiovascular diseases; E: Exposure= practice of spirituality and/or religiosity; C: comparison= patients with high spirituality and/or religiosity vs patients with low or no spirituality and/or religiosity, O: Outcome = quality of life10. From it, the guiding question of the study was elaborated: Is there an association or correlation of spirituality and/or religiosity with the QoL of patients with heart disease?

Registros identificados: MEDLINE/PubMed (n =124) BVS (n =608) Artigos em duplicadas que foram Scopus (n=54) removidos. CINAHL (n=25) (n =101) Embase (n=24) P Psycinfo (n=247) Total de artigos (n=1082) Estudos excluídos após leitura de Registros selecionados título e resumo (n =981) (n =933) Artigos excluídos após leitura na Estudos selecionados para leitura integra na integra(n = 48) -Não abordavam a temática do presente estudo -Não atenderam ao objetivo -Não estavam na íntegra (n = 40)Estudos incluídos na revisão (n=8)

Figure 1. Flowchart according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). Campinas, SP, Brazil, 2021



Primary studies that addressed the relationship between religiosity, spirituality and quality of life in patients with heart disease published in Portuguese, English or Spanish, from January 2016 to December 2020 were included. Editorials, letters, reviews, theses and dissertations were excluded duplicate articles and articles that did not address the theme.

For the search and selection of articles, the recommendations proposed by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) were followed (Figure 1)<sup>11</sup>.

The search was performed electronically and independently in January 2021 by two researchers and the following databases were consulted: MEDLINE and PubMed, in addition to the Virtual Health Library Database Platform

(BVS), Excerpta Medica Database (EMBASE) ). Other databases that were consulted were the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Scopus and the American Psychological Association (PsycInfo).

The search strategy employed in each database used the combination of the descriptors "Religion", "Spirituality", "Quality of Life", "Heart Diseases" and "Cardiovascular Diseases" and their synonyms, extracted from the Health Sciences Descriptors (DeCS/Bireme) and Medical Subject Headings (MeSH) (Chart 1). To maximize the search, combinations of descriptors were made using the Boolean operators "AND" and "OR".

To remove duplicates and help in the selection of articles, the reference managers EndNote and Rayyan were used<sup>12</sup>.

Chart 1. Search strategies used in databases. Campinas, SP, Brazil, 2021

Database and Database Platform	Strategy			
MEDLINE/PubMed	(((((((((Religion[MeSH Terms]) OR (Religion)) OR (Religiousness)) OR (Religiosity)) OR ("Religious Beliefs")) OR ("Beliefs, Religious")) OR ("Religious Belief")) OR (((((Spirituality[MeSH Terms]) OR (Spirituality)) OR (Spiritualities)) OR (Spirituality)) OR (Spirituality)) OR (Spirituality)) OR (Spirituality)) OR ("Health-Related Quality Of Life")) OR ("Quality of Life")) OR ("Health Related Quality Of Life")) OR ("Religious Diseases"[MeSH Terms]) OR ("Cardiovascular Diseases"[MeSH Terms]) OR ("Cardiovascular Diseases")) OR ("Diseases, Cardiovascular")) OR ("Cardiovascular")) OR ("Heart Diseases")) OR ("Cardiac Di			
BVS	(religion) OR (religión) OR (religião) OR (spirituality) OR (spiritualities) OR (spiritual) AND ("quality of life") OR ("Calidad de Vida") OR ("qualidade de vida") AND ("heart diseases") OR (cardiopatías) OR (cardiopatias) OR ("Cardiovascular Diseases") OR ("Enfermedades Cardiovasculares") OR ("Doenças Cardiovasculares")			
SCOPUS	(TITLE-ABS-KEY (religion) OR TITLE-ABS-KEY (religiousness) OR TITLE-ABS-KEY (religiosity) OR TITLE-ABS-KEY (spirituality) OR TITLE-ABS-KEY (spiritual) AND TITLE-ABS-KEY ("Quality of Life") OR TITLE-ABS-KEY ("Health Related Quality of Life") OR TITLE-ABS-KEY (hrqol) AND TITLE-ABS-KEY ("Cardiovascular Diseases") OR TITLE-ABS-KEY ("Heart Diseases") OR TITLE-ABS-KEY ("Cardiovascular Disease"))			
CINAHL	(religion OR religiousness OR religiosity OR spirituality OR spiritual) AND ("Quality of Life" OR "Health Related Quality of Life" OR QOL OR "well-being") AND ("Cardiovascular Disease" OR "Heart Disease")			
EMBASE	religion AND 'quality of life' AND 'heart disease'			
PsycInfo	religion OR religiousness OR religiosity OR spirituality OR spiritual AND "Quality of Life" OR "Health Related Quality of Life" OR HRQOL AND "Cardiovascular Disease" OR "Heart Diseases"			

## Data analysis and processing

The articles were independently analyzed by two researchers with expertise in the field of cardiology, in order to identify studies that met the selection criteria and, in case of disagreement, a third researcher was consulted. After identifying the studies that met the selection criteria, the data were extracted and organized according to an instrument adapted from another, available in the literature validated in a study<sup>13</sup>. After collection, data were entered into a Microsoft Excel® spreadsheet. The extracted data were: title, author, year of publication, design/sample size, intervention/predictor, objectives, outcomes related to R/S.

For the classification of studies according to the level of evidence, seven levels were considered: level I: systematic review or meta-analysis of relevant randomized controlled clinical trials or clinical guidelines based on systematic reviews of randomized controlled clinical trials;

level II: at least one well-designed randomized controlled clinical trial; level III: well-designed clinical trials without randomization; level IV: well-designed cohort and case-control studies; level V: systematic review of descriptive and qualitative studies; level VI: single descriptive or qualitative study; level VII: opinion of authorities or report of expert committees<sup>14</sup>.

### Results

With the descriptors used, 1,082 articles were identified. 101 articles were excluded due to duplication and 933 after reading the title and abstract. Of the articles selected for full reading, 40 studies were excluded because they did not meet the selection criteria, resulting in the selection of eight articles.

Chart 2 summarizes the studies analyzed in terms of: author, year and country where the study was carried



out; study design, sample size, intervention/predictor, study objectives, outcomes related to religiosity/spirituality (R/S), as well as the level of evidence (LE).

Chart 2. Characterization of primary studies included in the review. Campinas, SP, Brazil, 2021

Chart 2. Characterization of primary studies included in the review. Campinas, SP, Brazil, 2021					
Title	Author, Year	Design/Sample size	Intervention	R/S related outcome	
The Effect of Religious intervention using prayer for quality of life and psychological status of patient with permanent pacemaker	Naimi et.al,2020 <sup>15</sup>	Study with patients of the Shia religion hospitalized for permanent pacemaker implantation (MPD). N= 75 patients	Religious Intervention/ Prayer.	The implementation of the religious intervention led to an increase in quality of life and an increase in stress, anxiety and depression in post-MDP implantation patients.	
Predictors of quality of life in patients with hearth disease	Soleimani et al, 2020 <sup>16</sup>	Cross-sectional study with patients diagnosed with cardiovascular disease. N= 500	Spiritual well- being.	Spiritual well-being and social support led to a reduction in negative psychological sequelae and an improvement in QoL.	
Religion and spirituality as predictors of patient-reported outcomes in adults with congenital heart disease around the globe	Moons et.al, 2019 <sup>17</sup>	Cross-sectional and observational study with adult patients with congenital heart disease. N=4,028	Being religious/spiritual. Importance of religion/spiritualit y in life.	Self-identification as a religious and spiritual person and the attribution of greater importance to religion or spirituality were positively correlated with quality of life, satisfaction and health behavior.	
Religious practices and changes in health-related quality of life after hospital discharge for an acute coronary syndrome	Abu, 2019 <sup>18</sup>	Prospective multicenter cohort study with patients with acute coronary syndrome. Data collection at 1 and 6 months after hospital discharge.  N=1,039	Religiosity measures.	Patients who were aware of intercessory prayers made for their health experienced a clinically significant increase in their HRQoL compared to those who were unaware of intercessions made for their health.	
Factors associated with quality of life among post coronary bypass grafting patients at a cardiothoracic centre in Malaysia	Hafizan et.al, 2018 <sup>19</sup>	Cross-sectional study. Interview carried out in the last 02 to 24 months after surgery. N= 184 patients after coronary artery bypass graft surgery.	Religion.	There was an association between the Vitality domain of the SF-36 questionnaire with religions, but there was no association between other QOL domains of the SF-36.	
Health-promoting behaviors and quality of life in older adults with hypertension as compared to a community control group	Cao et.al, 2018 <sup>20</sup>	Cross-sectional study with hypertensive and normotensive elderly in China N= 109 (543 hypertensive elderly and 550 normotensive).	Spiritual growth index.	Hypertensive older adults had a lower rate of spiritual growth, and had lower scores on overall quality of life and physical health, compared with normotensive participants (p<0.05).	
Correlations between health-promoting lifestyle and health- related quality of life among elderly people with hypertension in Hengyang, Hunan, China	Li et.al, 2017	Cross-sectional study with elderly people with hypertension from a community health service center in Hengyang, N= 504	Spiritual growth.	Positive correlation of the 6 subscales (spiritual growth, physical activity, health management, nutrition, stress management and interpersonal relationships) of the Health-Promoting Lifestyle Profile II (HPLP-II) with QOL in hypertensive elderly.	
Association between Spirituality and Adherence to Management_in Outpatients with Heart Failure	Alvarez et.al, 2016 <sup>22</sup>	Cross-sectional study with patients with heart failure. N= 130	Spirituality, religiosity and personal beliefs.	The WHOQoL-SRPB (World Health Organization Quality of Life, Spirituality, Religiosity and Personal Beliefs instrument) was moderately correlated with both generic (WHOQoL-Bref) and disease-specific (MLHFQ-Minnesota Living With Heart Failure Questionnaire) measures).	

The levels of evidence found in the analyzed studies were level III, that is, well-designed clinical trials without randomization (1 study) and level IV, that is, well-designed

cohort and case-control studies (7 studies). Studies with higher levels of evidence were not found in the literature, which indicates the need to develop controlled and



randomized clinical studies with more robust designs, capable of supporting safe and effective practices 15-22.

As for the countries of publication, two articles were published in China, two in Iran, one in Malaysia, one in the United States, one in Brazil and one was a consortium of 15 countries from five continents, all available in English. There was a predominance of oriental countries, but also that this topic is of global interest, since there are studies involving different countries and continents.

#### Discussion

When analyzing the studies, it is important to consider that variables related to the profile of patients affected by heart disease, often associated with several comorbidities that worsen the prognosis and quality of life, can interfere with the results<sup>23</sup>.

It is noteworthy that most of the selected studies showed levels of evidence lower than the most rigorous levels in research, suggesting that the study of spirituality in patients with heart disease is still a topic to be explored.

Regarding the type of heart disease, the studies included individuals with arterial hypertension (two studies), with heart failure (one study), coronary syndrome (one study), congenital heart disease (one study), and hospitalized patients, without mentioning the type of heart disease (one study). Two studies addressed patients with cardiovascular surgery, one with a pacemaker and the other with myocardial revascularization<sup>15-22</sup>.

In the analyzed period, only 08 studies were identified relating R/S, QoL and heart disease, indicating the relative scarcity of research on the topic addressed, which corroborates the need for further knowledge in this area.

The analysis of these studies allowed the identification of four main approaches: the country of origin of the studies found, the profile of the patient with heart disease, the type of instrument used to identify variables related to spirituality and quality of life, and religious practices.

# Country of origin of the studies found

In this review, the predominance of international studies stands out, with five studies carried out in Eastern countries. Eastern countries are recognized for their diverse culture and religious beliefs, marked by objective and subjective demonstrations of faith, discipline and concentration. Studies carried out by eastern researchers, or in partnership with multicenter centers, sought to associate spirituality with the quality of life of patients, finding positive associations related to prayer and religious manifestations, adherence and acceptance of health conditions 15-21,24.

The predominance of studies carried out in Eastern countries in this review reaffirms aspects of Eastern medicine that seek to integrate religious and spiritual dimensions into the patients' health-disease process in its practice. In Western countries, despite the growing interest of scholars in the influence of spirituality on adherence to medical treatments, R/S is still related to the field of psychiatry, showing that these variables are still closely related to mental health. Although studies suggest a

negative influence of the role of psychiatry on issues associated with spirituality, the approximation between religion and mental health can help to equip health professionals to develop skills that favor the understanding of religious factors in the clinical management of patients undergoing treatment for psychiatric disorders<sup>25,26</sup>.

# Cardiology patient profile

Most of the selected studies included individuals undergoing clinical follow-up of cardiac disorders. In these studies, there was an association between religiosity and quality of life and a positive correlation for most of the patients followed up<sup>16-18,20-22</sup>.

Faced with the physiological and psychological vulnerability experienced by patients, manifestations practiced by them or by people close to them were able to alleviate feelings of anguish and anxiety, as pillars of support for the acceptance of acute or chronic health conditions. These manifestations reaffirm the interconnection of human beings with their environment, with nature and the internal and external worlds, and highlight the integrality of care as a real need of the patient<sup>15,27</sup>.

The scarcity of studies that address the religiosity of surgical patients may be related precisely to the time needed to address the comprehensiveness of the patient's diverse needs in the face of surgical emergencies, which have time as a crucial variable for the positive outcome of the procedure for the patient's survival. . Despite the apparent difficulty, the possibility of addressing issues related to quality of life can be inserted in the postoperative period of major surgeries, as proposed in a study carried out in Iran, which identified an association between spirituality and the variable "vitality" in patients undergoing myocardial revascularization surgery<sup>19</sup>.

# Instruments used to identify variables related to spirituality and quality of life

The application of structured and validated instruments was the main strategy for identifying and measuring R/S and QoL in cardiac patients.

Spirituality was assessed using different methods and, among the studies included in this review, the most used instrument to measure it was Health Promotion Lifestyle Profile-II (HPLP-IICR). The HPLP-IICR, which has already been translated and validated in different countries, assesses lifestyle and health promotion profiles, contains 52 items and six domains (spiritual growth, physical activity, health management, nutrition, stress management and interpersonal). relationships). Another measurement used was to ask pre-formulated questions about the spiritual life and religiosity of the participants<sup>17,18,20,21,28,29</sup>

QOL was measured in four studies using the SF-36 questionnaire, and in two studies using the Whogol-Bref questionnaire. The SF-36 questionnaire is an instrument developed by John Ware, used to measure generic health concepts. It has 36 items divided into eight QOL domains. It covers functional capacity, physical aspects, bodily pain,



general health status, vitality, social aspects, emotional aspects and general mental health. The answers are transformed into a scale ranging from 0 to 100, the higher the score, the better the health status. An abbreviated version of the SF-36, the SF-12 was also used to measure QOL in a study<sup>15,17-22,30</sup>.

The studies included in this analysis, therefore, used a similar and well-established methodology for measuring R/S and QOL, although great heterogeneity was observed regarding the type of heart disease or the nature of the treatment offered to patients.

### **Religious practices**

The use of daily prayer during treatment was addressed in two studies and showed a positive relationship between prayer and quality of life<sup>15,18</sup>.

A study carried out with hemodialysis patients showed that individuals who do not perform religious practices do not have a good perception of health and showed an association with a worse perception of QOL. However, a review on spirituality and health showed that religious practices can provide both positive and negative

aspects in the physical and mental health of its practitioners<sup>31,32</sup>.

Prayer as a therapeutic resource, reading the holy scriptures, as a promoter of comfort and positive spiritual states, demonstrate that the spiritual dimension is an important component in patient care, but there is no consensus on whether or not the health professional should encourage the religious experience<sup>33,34</sup>.

### Conclusion

There was an association or positive correlation between religiosity and spirituality and quality of life in individuals with heart disease, regardless of the type of associated cardiovascular disease or type of treatment. This demonstrates the importance of considering the religious/spiritual particularity of each patient and understanding that the individual's QoL also involves dimensions such as their beliefs.

The relative scarcity of data in the literature on the subject and the lack of studies with more robust design points to the need for more studies on this subject.

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