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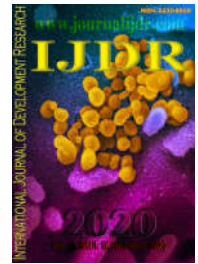
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RESEARCH ARTICLE

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RELIGIOSITY AND SPIRITUALITY FOR THE OUTCOME OF ANXIETY IN CHRONIC KIDNEY PATIENTS: SYSTEMATIC REVIEW AND META-ANALYSIS

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ABSTRACT

There is a large proportion of people with chronic diseases, such as kidney disease, and this fact has been associated with levels of anxiety to a considerable extent. Spirituality and religiosity are aspects little discussed within the health area, but they can have an important influence on the quality of life and mental well-being of various populations. There is a discussion about the relationship between religious and spiritual practice with clinical health outcomes. Therefore, the objective of the study was to analyze the impact of religiosity and spirituality for the anxiety outcome in chronic kidney patients. It is a systematic review with meta-analysis guided by the PRISMA protocol. Studies were sought from the sources PUBMED, Scopus, MEDLINE, LILACS and Web of Science. The following search strategy was used: "(Religiosity OR spirituality) AND anxiety AND (Chronic Kidney Disease OR hemodialysis)". Inclusion criteria were considered to be available at least the abstract, with any methodological design, published between the years 2015 to 2020. Repeated studies, other literature reviews and studies with a high risk of bias analyzed by the Downs and Black tool were excluded. Initially, 664 studies were found, of which 10 were selected for final analysis. There was a high impact of the presence of religiosity and spirituality to improve the final outcome of anxiety with secondary analysis of quality of life with ES 0.75 CI (0.66 - 0.82). There was a positive correlation between the presence of the analyzed aspects and decreased levels of anxiety with a value of 0.77 CI (0.68 - 0.85) and p-value <0.05.

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INTRODUCTION

Individuals with chronic illnesses constantly deal with significant psychological and social problems. This is the case in more than 60% of cases of people with kidney disease. Chronic kidney disease (CKD) is considered when less than 50% of the organ's function is in a physiological state (Rambod, 2020). Several facts, such as treatment regimen, social interventions and chronic health conditions seem to be

associated with negative mental health events. Some strategies are used in terms of health care and by the people themselves to get around this situation (Tavassoli, 2019). Pharmacological interventions are quite common to be associated with the treatment of mental conditions that are developed during the treatment of chronic disease. Associated with the fact, but which is little analyzed, many people practice more or less intense religiosity (understood as the degree to which religion

is practiced) and spirituality (search for meanings of life in non-tangible aspects) (Siqueira *et al.*, 2019). Several positive health conditions, such as improvements, cures or a higher level of survival, are associated with these events, although in health they are considered secondary aspects (Taheri-Kharameh *et al.*, 2016). The spiritual aspect in general, is one of the points that are already considered by several health professionals for assistance, following this direction, an approach with a focus on this, raises the highest rates of hope and quality of life for people with CKD (Malaguti, 2015). Even considering entirely biological aspects, the presence of more active mental states and positive thoughts inclined by the spiritual aspect and religiosity show an improvement in the health condition, alter neurotransmitters, hormones and the control by the central nervous system which helps in several organic aspects and influences low levels of anxiety in people with chronic diseases. Despite this, there is little evidence that directly analyzes whether or not there is a positive outcome when compared to these cases (Alshraifeen, 2020; Musa, 2018). With this, one can ask: is there an impact on the levels of anxiety and quality of life for people with chronic kidney disease who practice religiosity and spirituality?. A growing number of studies report that higher levels of religious involvement tend to be associated with happiness, better well-being and physical health, lower rates of depression, suicide, substance use / abuse and general mortality (Alshraifeen, 2020; Zamanian, 2018). Coping with the health condition with religious aspects seems to assist in the adaptation that these people go through and, in this way, allow for greater adjustments in psychosocial contexts resulting in better health outcomes (Ramos, 2018; Loureiro, 2018). Given this context, the objective of the study was to analyze the impact of religiosity and spirituality for the anxiety outcome in chronic kidney patients.

METHOD

It is a systematic review with meta-analysis in accordance with the recommendations of the PRISMA protocol (Moher, 2009). Inclusion criteria were considered to be available at least the abstract, with any methodological design, published between the years 2015 to 2020. Repeated studies, other literature reviews and studies with high risk of bias analyzed by the tool Downs and Black (Downs, 1998) were excluded. The search for studies was based on the following bases:

- Scopus
- LIALCS
- MEDLINE Ovid
- Web of Science
- PubMed

The data were searched separately with each of the strategies below for better investigative determination.

“(Religiosity OR spirituality) AND anxiety AND (Chronic Kidney Disease OR hemodialysis)”

The research question was traced by the acronym PVO, being:

P: People with chronic kidney disease

V: Religiosity and spirituality

O: Primary outcome (anxiety); secondary (quality of life)

Three searches were carried out with pairing to identify possible previously established selection variances that could influence the result. In the case of possible discrepancies, a

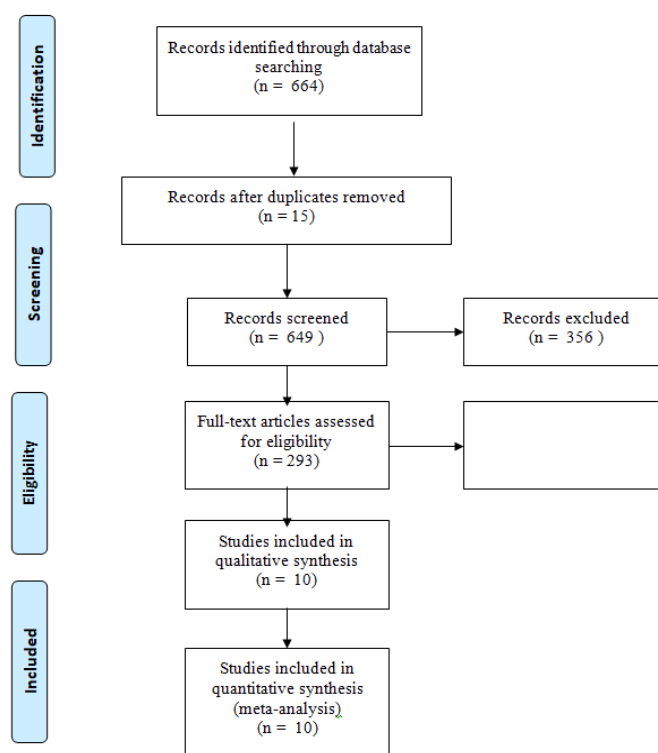
third reviewer was consulted for data determination and inclusion or not in the article. Some information analyzed in each study was as follows:

Year of publication, country of origin, authors, method, number of participants, inclusion and exclusion criteria and forms of recruitment; Characteristics (age, sex, income, lifestyle) of baseline participants;

Anxiety outcome: For the analysis of outcomes, the number of participants and descriptive variables such as mean and standard deviation of the positive variables analyzed were analyzed. All effects were analyzed according to the dichotomous or continuous perspective according to the characteristics of the selected studies and, thus, the random effect was calculated always using a 95% confidence interval. The specific questions of analysis were the determinations according to the primary outcomes of significant differences between possible interventions or not. From the significant determination of these differences, an inferential analysis of effect size and gross difference was determined to verify the effectiveness of the alternatives. Whenever possible, missing data were sought when not available in articles through contact with the authors. When these data were not found after two attempts, the multiple imputation method was used to determine missing cases. The general data analysis took place using the RStudio software. The Mantel-Haenszel models with a random effect and proportion analysis with a 95% interval and 0.05 significance were used. By the sensitivity analysis method, studies with high risk of bias in the generation of sequence, concealment of allocation or blinding method determined by the funnel plot evaluation were excluded.

RESULTS

Initially, 664 studies were found of which, after applying the eligibility criteria, 10 articles were included in the review. The selection flowchart is shown in figure 1.



Source: Direct search

Figura 1. Fluxograma de seleção dos estudos

Table 1. Provides information on the selected studies in relation to the article, outcome and bias assessment using the Downs and Black scale

Author	objective	Methodological design / sample	Main results	Outcome	Downs and Black Scale
Rambod, Pasyar and Mokhtarizadeh1	Determine psychosocial, spiritual and biomedical predictors of hope in hemodialysis patients	Cross-sectional / 350	Lower levels of anxiety and depression are found in people with usual practices of religiosity and spirituality	Considering the association between hope and social support, spiritual well-being, anxiety, depression and stress, the use of some interventions in relation to the mentioned variables can increase hope among hemodialysis patients.	23
Nasrin et al.2	Assess hope and its relationship to spiritual health in hemodialysis patients at Rasht Razi Hospital, Iran	Correlational / 103	The mean of the total spiritual health score was 227.93 (\pm 19.01), indicating the high level of spiritual health in hemodialysis patients	The results of this study approve the importance of spiritual health as an effective variable in hope among hemodialysis patients	25
Siqueira, Fernandes and Almeida3	to investigate the association between religiosity and spirituality and happiness among patients with CKD on hemodialysis	Cross-sectional / 161	Intrinsic religiosity (IR) (β = 0.48; 95% CI = 0.18 to 0.79) and SC (β = 0.11; 95% CI = - 0.09 to 0.15) correlated with higher levels of happiness, controlling the clinical and sociodemographic variables	Psychosocial variables are potential key targets for interventions to promote better quality of survival among patients with CKD	22
Taheri-Kharameh et al.4	To evaluate the relationship between religious coping and quality of life in hemodialysis patients.	Cross / 95	Negative religious coping was associated with worse quality of life, including physical functioning (odds ratio [OR] = 0.72; P = 0.009), physical function (OR = 0.79; P = 0.04), vitality (OR = 0.62; P = 0.005), social functioning (OR = 0.69; P = 0.007) and mental health (OR = 0.58; P = 0.01)	The incorporation of religious support in the care of hemodialysis patients can be useful to improve the quality of life of this patient population	21
Malaguti et al.5	Analyze the relationship between these patients' quality of life spirituality scores	Cross / 100	The highest spirituality scores were related to higher scores on vitality, mental health and overall quality of life	Spirituality was shown to be positively related to improving the quality of life and should be considered by professionals who care for this type of patient	25
Alshraifeen et al.6	Examine levels of spirituality, depression and anxiety and explored the association between them who received hemodialysis treatment in Jordan	Cross-sectional / 202	Increased anxiety and the number of comorbid conditions were predictors of depression. No significant correlations were found between spirituality, neither with the characteristics of the sample, nor with depression and anxiety.	It was found that depression and anxiety are common among respondents. Spirituality was of medium importance to them, but it was not significantly associated with depression and anxiety	22
Musa et al.7	Explore levels of spiritual well-being and its associations with depression, anxiety and stress	Correlational / 218	Aspects of spiritual well-being were negatively associated with depression, anxiety and stress, but only existential well-being consistently retained significant associations after controlling for religious well-being, religiosity and sociodemographic variables	Greater spiritual and existential well-being of Jordan's hemodialysis patients was significantly associated with less depression, anxiety and stress	24
Zamariano et al.8	To determine the relationship between coping strategies and psychological distress in quality of life (QOL) in hemodialysis patients.	Cross / 100	Emotional coping style is a significant independent determinant of lower QOL	Anxious and emotional coping style negatively affects QOL in dialysis patients	22
Ramos, Erkanli and Koenig9	To analyze the effects of religion versus conventional cognitive-behavioral therapy (CBT) on suicidal thoughts in major depression and chronic medical illness	Clinical trial / 132	Baseline religiosity predicted a decline in suicidal thoughts over time, regardless of treatment group	Religiosity predicts a decrease in suicidal thoughts, regardless of the treatment group.	25
Loureiro et al.10	Investigate whether spirituality and religiosity (I / O) are associated with the presence of suicide risk, as well as whether these beliefs are also associated with the presence of mental health problems in hemodialysis patients	Cross-sectional / 264	With regard to spiritual well-being (FACIT-Sp 12), the subscale "Meaning" was associated with a lower risk of suicide, depression and anxiety.	Spiritual beliefs were associated with lower risk of suicide and better mental health in hemodialysis patients	25

Source: Summary of studies

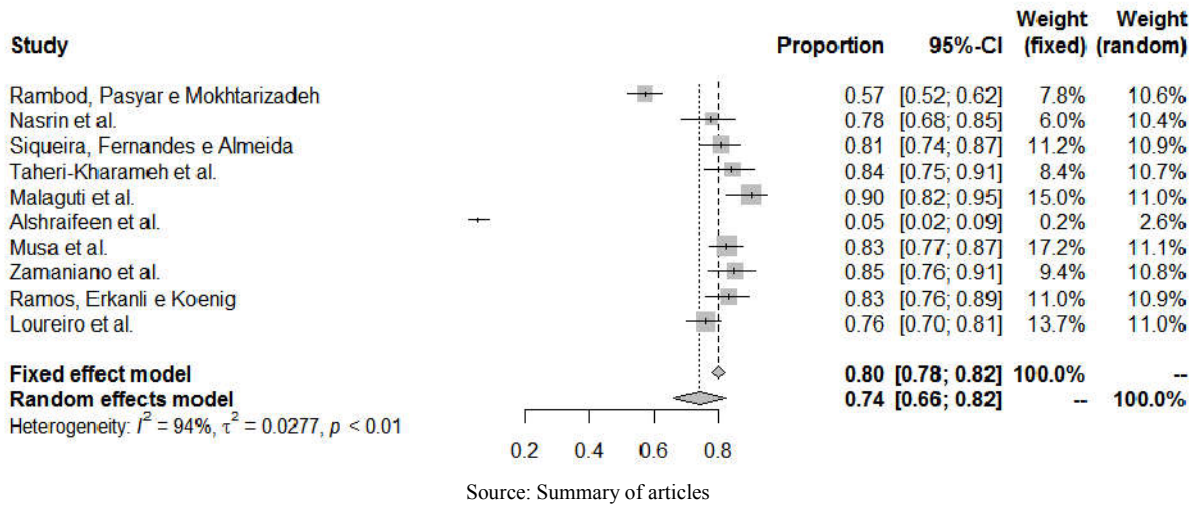


Figure 2. Meta-analysis of proportion of studies

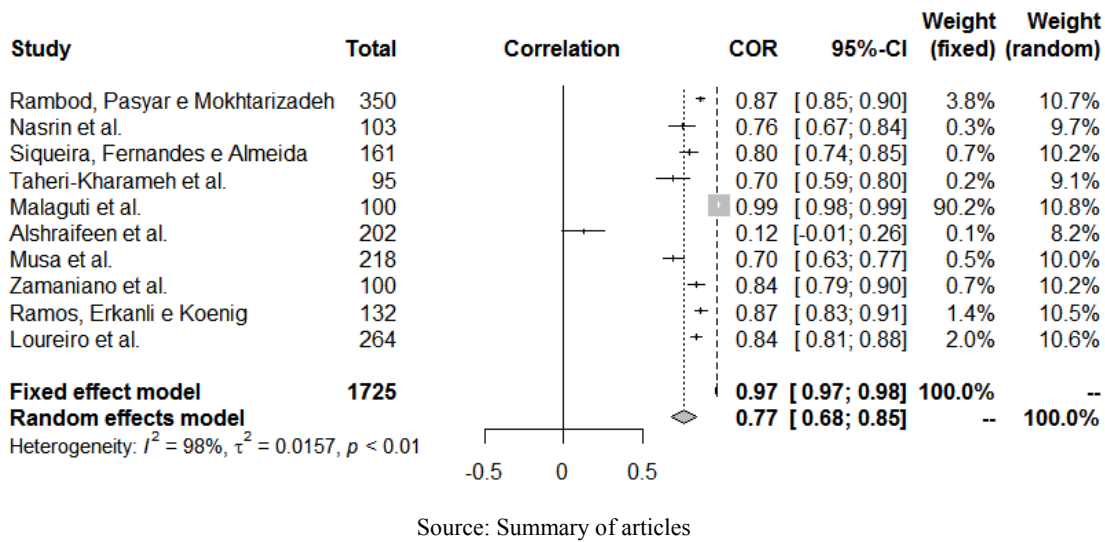


Figure 3. Correlation meta-analysis of studies

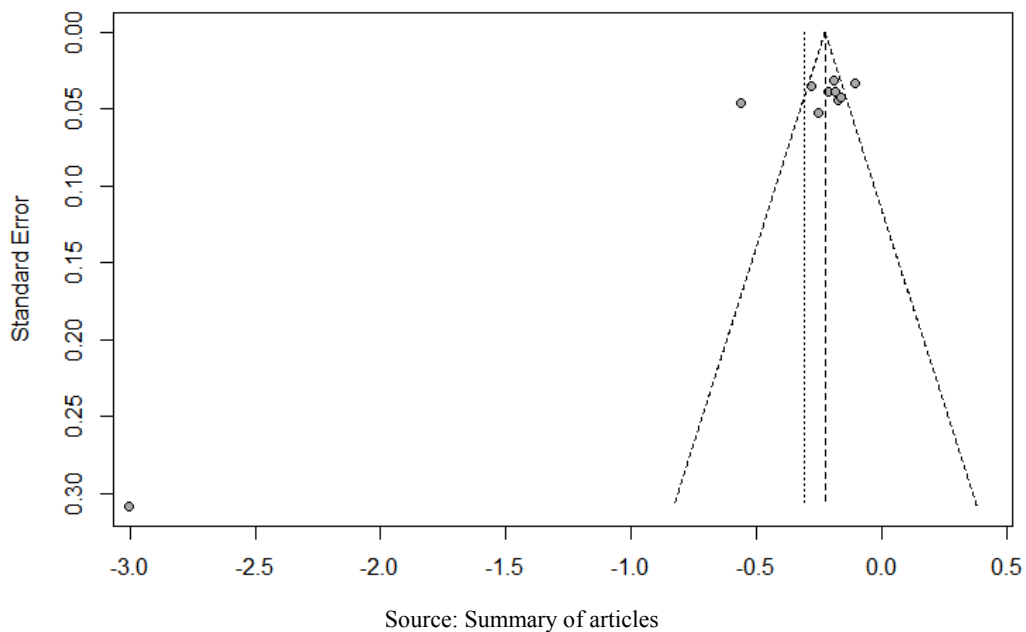


Figure 4. Bias analysis by Funnel Plot

The proportion analysis showed a random effect of great magnitude 0.74 with confidence interval CI (0.66 - 0.82). To confirm this association, a simultaneous correlation calculation was performed according to data in figure 3. A strong correlation was found between the presence of religiosity and spirituality and decreased levels of anxiety in people with chronic kidney disease [(0.77) - 0.68 - 0.85] and p-value <0.01. In addition, the studies presented are not biased, as they focus on a certain range of analysis, as shown below (Figure 4).

DISCUSSION

According to the statistical results, there is a positive and beneficent association between the presence of religiosity and spirituality to decrease anxiety and improve the quality of life of people with CKD. It is a fact that kidney disease can cause changes in emotional levels in an important way, mainly related to aspects of the clinical condition such as food and fluid restrictions, pain and fatigue¹⁰. In many cultures, strong spiritual beliefs are used to deal with chronic illnesses. In some institutions, the so-called "hope therapy" is used, which has already been shown to reduce depression, anxiety and stress in hemodialysis patients (Rambod, 2020). In people with better health outcomes, the average spiritual health score is high in most patients. Considering goals and choosing methods to care for, considering patients' religious or spiritual attitudes and referring patients to therapies that enhance spiritual health, can be helpful in promoting spiritual health and achieving their goals (Tavassoli, 2019). Objective clinical variables tend to have a much weaker relationship than is supposed with subjective assessments of the patient's state of health and well-being. However, the reasons for this effect are not yet clear³. Identifying and supporting religious coping strategies and promoting the use of spiritual resources to enable patients to better deal with CKD can be effective strategies. There is evidence that the simple collection of a patient's spiritual history is associated with greater satisfaction with the treatment and better quality of life (Taheri-Kharamah, 2016). These are results that should be considered by professionals who assist this type of patient, since higher spirituality scores are related to mental health and positive quality of life (Malaguti, 2015). Of the selected studies, only one study⁶ did not demonstrate a relationship between the events studied, despite reporting that 22.3% of people with CKD have moderate to severe anxiety. Most patients with these chronic conditions use religious and spiritual beliefs and practices as coping mechanisms to overcome their depression, anxiety and stress (Musa, 2018). As a good part of these people undergo hemodialysis, there is a great amount of depression and anxiety in a severe way, which significantly affects mental and body health (Musa, 2018; Zamanian, 2018). It is important to note that in addition to the benefits in mental health, there is an improvement in quality of life when analyzed by several domains. As a result, more attention could be given to its role in dealing with the inevitable sources of stress in the care plan (Zamanian, 2018). In the study by Ramos et al. (2018) this is verified even with the use of interventions associated with cognitive behavioral therapies which helps in the prevention of negative mental health events such as the practice of suicide based on mood disorders such as depression and anxiety (Loureiro, 2018). The results are promising for considering the main clinical outcome that was analyzed. The main limitation of the study was the small number of studies that directly relate the presence of religiosity and spirituality to the outcome

of anxiety in a specific way in people with CKD. Despite the few studies, it was possible to verify the clinical significance. More studies are needed in this field of knowledge for a wider dissemination of health evidence in this area of knowledge.

Conclusion

There is an impact and association between the presence of religiosity and spirituality to reduce anxiety levels and improve the quality of life of these people. Despite being little analyzed in a specific way in the health area, it is important to highlight their clinical significance for mental and organic health in general. These facts attest to the need for these events to be incorporated by professionals and their importance for the health outcome of these patients. Although it is controversial for the various theories related or not to religion, the positive results of this incorporation, suggestion and accompaniment according to the religion and in the spiritual field are of great value to science and especially to patients, as better quality of life. Life and fewer comorbidities are found for supporters.

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