



Religiosity, spirituality and quality of life of dialysis patients: a systematic review

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Abstract

Purpose End-stage renal disease (ESRD) patients often report a combination of disturbing physical symptoms and psychological distress which result in significantly reduced quality of life (QoL). Coping with a chronic disease is a complex matter involving also the family and a multi-disciplinary team. Recently, observational studies suggested that spirituality (S) and religiosity (R) are two important determinants in coping with a chronic/terminal disease. Both concepts were studied in various settings, involving ESRD and QoL. This systematic review aims to synthesize all instruments used to assess R/S, to examine the strategies evaluating QoL of dialysis patients and to analyse their correlations.

Methods In accordance with the PRISMA, a systematic search was conducted in PubMed and SCOPUS (between Jan 1980—Dec 2018, PROSPERO number CRD42019116837). Eligible studies included patients on dialysis therapy, religiously/spiritually assessed and contained QoL evaluation.

Results Of the initial 311 studies, 261 papers were excluded. Consequently, 50 papers with a total 9265 patients were available for inclusion. From a list of 177 R/S scales available worldwide, we identified 24 tools. We organized all QoL parameters into 10 classes. In all studies, R/S variables were positively correlated with at least one QoL variable.

Conclusions In this systematic review, we synthesized the studies involving R/S assessment in dialysis patients and their benefit on QoL. R/S has a positive impact on most QoL parameters in 5D-CKD. We suggest that nephrology guidelines on palliative care and/or elderly should include specific recommendations on R/S support and opportunities for integrated specific therapies.

Keywords Dialysis · End-stage renal disease · Religiosity · Spirituality · Quality of life

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Introduction

End-stage renal disease (ESRD) patients often report a combination of disturbing physical symptoms and psychological distress which result in significantly reduced quality of life (QoL) [1]. Moreover, in this increasing group of dialysis-dependent patients, suicidal rate appears to be significantly higher than in a non-dialysis population [2]. In fact, coping with a chronic disease is a complex matter involving not only a doctor and a patient, but also family and frequently a multi-disciplinary team: nurses, physiotherapists, occupational therapists, patient support groups and medical social workers [1].

These new psychological issues generated by dialysis onset seem to indicate an association between QoL assessment and morbidity/mortality in ESRD patients, suggesting that the QoL “measures do matter” [3]. Recently, new modalities of psychological counselling and interventions are developed in order to improve both perceived and measured quality of life [4].

In the last years, many observational studies suggested that spirituality (S) and religiosity (R) are two important elements in coping with a chronic or terminal disease [5]. Both concepts were studied in various settings, involving ESRD and QoL. The relationships between R/S and depression are complex and incompletely understood [6] and one cannot ignore their importance in dialysis (improving coping strategies, influencing QoL, quality of sleep or suicidal risk) [7].

Currently, there is no consensus regarding how to define R/S, how to intervene or suggest strategies to influence QoL in dialysis through these pathways, and how to include specific recommendations at the level of nephrology guidelines. Is there a real benefit of R/S supporting programmes in dialysis or is it just a sensitive and personal matter that should not be approached in a standardized manner? [8]. And how can one use these strategies to generate measurable advantages in terms of QoL? [9]. Does it seem like a “*future must*” regarding Guidelines implementation or is it just a collateral approach that should be left in shadow? Does neglecting specific R/S assistance deprives a patient of a better (or a longer) life? [10].

One possible explanation regarding the aforementioned lack of consensus relies to the fact that R/S phenomena are difficult to measure and assess from both sociology and psychology viewpoints. Hence, the added difficulties in formulating measures that are both theoretically and psychometrically adequate, being in the same time specific for particular constructs or clinical populations, can explain the fact that “*religious and spiritual measures designed for clinical populations are rare*” [11].

Objectives

Therefore, our systematic review aims to synthesize all the instruments used to evaluate religiosity or spirituality, to examine the strategies used to evaluate different aspects of quality of life of dialysis patients (interviews, questionnaires or standardized scores) and to analyse their correlations. Finally, we aimed to suggest new ways of implementing religious/spirituality coping methods in daily routine of dialysis.

Methods

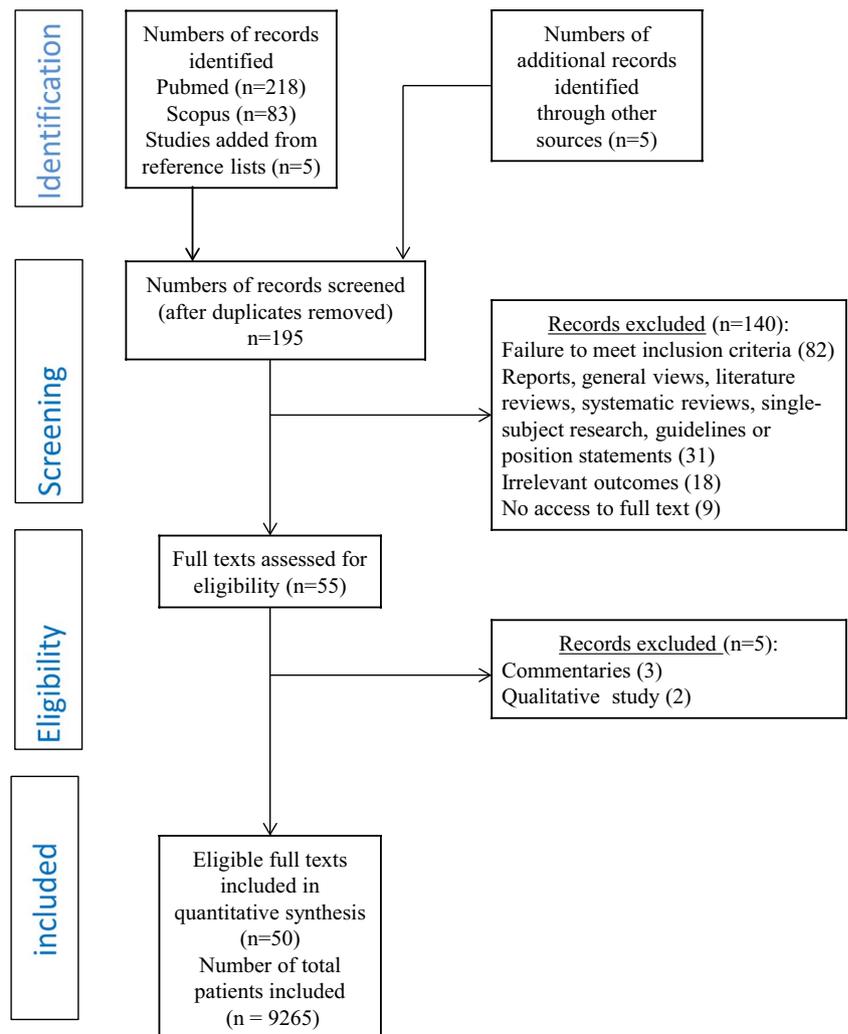
In accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses, a systematic search of the literature was conducted. A review protocol and registration information including registration number were recorded on PROSPERO International prospective register of systematic reviews, under the number CRD42019116837 and can be accessed at the following Web address: http://www.crd.york.ac.uk/PROSPERO/display_record.php?ID=CRD42019116837.

The electronic databases of PubMed and SCOPUS were systematically searched for relevant articles between Jan 1980 until Dec 2018 (the search was conducted in Oct 2018 and revised in Dec 2018). The search terms used were [“*dialysis*” OR “*hemodialysis*” OR “*advanced chronic kidney disease*”], AND [“*spirituality*”, “*religion*”, “*religiosity*”, “*religiousness*”], AND [“*quality of life*” OR “*depression*” OR “*resilience*” OR “*well-being*”]. The literature search was performed independently by two independent reviewers (B.A., A.B.) with disagreements resolved by consensus and if necessary, with further consultation from a third author (I.N.). The search process (Fig. 1) encompassed the basic search–article identification, removing the duplicates, screening titles and abstracts and assessing eligibility of the selected full texts. Additionally, reference lists of admissible articles, excluded systematic reviews, meta-analyses and reviews were manually checked for studies of relevance.

Eligibility criteria

Included studies were selected if they report data about patients above 18 years old diagnosed with ESRD on dialysis therapy, religiously or spiritually assessed, regardless of religion. Since there are no unique instruments used to evaluate religiosity or spirituality, all the scores or interviews (and their quality) were interpreted by the authors. All the studies should contain a part of quality of life assessment

Fig. 1 Flow chart for process of screening electronic databases and inclusion of trials in the review



(well-being, happiness, adherence to treatment, satisfaction of life, psychological distress, depression).

Data extraction

The data extracted from the selected studies with full-text comprises: the first author's last name, paper and publication year, study type, country of origin, number of patients, religion (christians, catholics, protestants, muslims, buddhist, hindu, jewish or no religion) type of renal replacement therapy (hemodialysis and/or peritoneal dialysis), concepts assessed (religiosity, spirituality, resilience, coping, well-being, psychological distress) and instruments used (standardized scales and scores, questionnaires, interviews). In fact, given the heterogeneity of the parameters, interviews and scales, we made a simplification and stratified all data into more general fields: any modality to quantify religiosity/spirituality (different scores/interviews) and any modality to express and measure QoL (different variables).

We also looked for the correlations made and their statistical significance (p value or correlation coefficient) and interpreted in a separate column each conclusion of each study. Throughout the studies, the scores/interviews were stated as values or percentage. More important for us was the extraction of each comparison between different groups' results and the correlations made (e.g. "there was a significant correlation between patients' spirituality and religious involvement scores and greater satisfaction with life") [12]. We made a specific extraction of the inferences made in each study regarding the impact of R/S on QoL in dialysis patients.

Risk of bias

Two reviewers independently evaluated the quality of the selected studies using the Newcastle–Ottawa scale (NOS) [13]; according to NOS, three methodological categories were used for assessment: selection (score 0–4), comparability (score 0–2) and outcome (score 0–3). Quality was

considered high if score 7–9, intermediate if score 4–6 and low if 0–3. Disagreements were resolved by consensus. Publication bias was assessed using the funnel plot technique [14].

Results

Literature search

The initial search strategy identified 311 studies. After 116 duplicates were deleted, we screened titles and abstracts, and a total of another 140 studies were excluded because they were either reports, general review articles, current concepts, commentaries, systematic reviews, meta-analyses, off-topic or failed to match the inclusion criteria. After the assessment of the remaining 55 full-text articles, a further five studies were excluded (commentaries, qualitative studies or no-english available text). Consequently, 50 papers [8, 9, 12, 15–60] were available for inclusion (Fig. 1).

Study characteristics

Detailed information about study characteristics and results, as well as measure outcomes can be found in the supplementary material (S1 and S2 Tables). All studies were observational, descriptive, cross-sectional except only one, which was randomized controlled trial [55]. More than half of the studies were conducted in both American continents (16 in North, 16 in South), only three in Europe, rest of them being in Middle-East (seven) or Phillipines/Thailand/Malaysia/Taiwan (eight studies).

Hemodialysis was used in 48 studies and peritoneal dialysis in seven studies. Half of all studies did not specify religion, and the other half was divided: 15 studies included Christians (Catholics, Evangelics, Protestants, Baptists, Adventists), seven studies evaluated Muslims, three Buddhist and one with native American Indians.

The average sample size was 185 dialysis patients (range: 8–1332; Total = 9265 patients). The randomized controlled trial included only 50 patients (25 control group, 25 test group).

R/S assessment instruments

All the studies from our systematic review assessed either religiosity/religion (16 studies), or spirituality (16 studies), or both (18 studies), the scales and indexes being stated in Table 1.

From a list of 177 scales available worldwide for research [61] we identified 24 tools, all the others being un-standardized interviews/scales/questionnaires. The problem that still exists is what these scales are measuring

and in whom are measuring [61]. However, the quality and the assessing-power of the instruments are not the purpose of this review.

QoL indicators and scales

We organized all QoL parameters into 10 particular indicators (Depression/Anxiety/Distress; Physical health; Mental health; Treatment adherence (medication and dialysis); Resilience/Coping strategies; Hope/Optimism; Well-being; Perception of burden of Illness; Social functioning; Risk of suicide) and their specific used scales into the Table 2.

Unlike the situation of R/S assessment tools, QoL scales are more standardized and ensure that treatment and evaluations focus on the patient rather than the disease. Even if “*they are not a substitute for measures of disease outcomes*” [62], they reflect both the way one patient perceive his/her life with the illness and the quality of the management of the disease. A specialist can not neglect the patients’ feelings and the aim of this review is to find a solid place for R/S strategies in the management of dialysis patients.

Correlations between R/S and QoL

All the correlations and statistical inferences were presented in Supplementary Table 2. Few studies claimed that religiosity and spirituality should be included in the daily evaluation of dialysis patients [9, 23, 24, 31]. Almost all of the studies showed that dialysis patients who include religiosity and/or spirituality in their life reported a positive effect on their QoL parameters (lower depression rates, lower suicide rates, higher well-being). Moreover, in one study patients with higher spirituality scores had an increased survival rate [32].

Quality of life in general

This parameter was assessed in 19 studies with 2659 patients using nine scales (Table 2). Religion, spirituality, personal and religious beliefs correlated with higher QoL scores in 10 of these studies. Intrinsic religiosity (those individuals view their religion as the framework for their lives, and try to consistently live the religion they believe [63]) showed a strong correlation with QoL parameters in one study [23]. In four studies, R/S coping methods proved to be associated with QoL in general [31, 34, 37, 40]. Existential and spiritual well-being were significant predictors for health-related QoL [25, 47]. On the other side, only one study with 176 African American HD patients showed that religiosity was not found to be significantly associated with the mental health component of QoL [53].

Table 1 R/S scales, indexes and questionnaires

Religion/Religiosity scales	References	Spirituality scales	References	Both	References
13-item Muslim Religiosity Scale	[16]	Impaired Spirituality Index	[15]	Specific interviews	[18]
The DUREL scale—a Portuguese-validated version of the Duke University Religious Index	[17]	The spiritual well-being scale	[25]	The WHOQOL-SRPB	[19]
Religion & resilience index	[20]	Spiritual well-being Questionnaire (SWBQ)	[8]	Muslim Religious Index The Arabic versions of the spiritual coping strategies scale	[24]
3 Religiosity scales	[21]	Pinto Pais-Ribeiro spirituality scale (PP-RSS)	[29]	The ESRD spiritual beliefs scale, the spiritual perspective scale and the spiritual well-being scale	[9]
Religious coping index	[22]	Colaizzi's (1978) methodological interviews	[33]	Duke religion index FACIT-Sp 12	[27]
The Duke University religion index, ORA, NORA, IR	[23]	21-item Meaning in life scale (MiLS)	[35]	The SCSORF, the age universal religious orientation scale (AUROS), the religious life inventory (RLI) and the Duke University religion index (DUREL)	[30]
Religion Questionnaire	[26]	The spiritual well-being scale (SWB)	[38]	Interview/specific questionnaire	[12]
Portuguese version of the private and social religious practice scale	[28]	The royal free interview for spiritual and religious beliefs (RFI)	[41]	R-COPE, religious coping questionnaire	[31]
Brief R-COPE	[37]	Spiritual beliefs scale	[42]	Interview/specific questionnaire	[32]
Religion/faith interviews	[39]	Spiritual well-being Questionnaire (SWBQ)	[47]	Brief SRC scale	[34]
10-Question survey assessing religious activity	[40]	Facit spiritual scale	[49]	Interview/specific questionnaire	[36]
The WHOQOL-SRPB scale	[48]	Spiritual well-being Scale	[50]	Duke religion index Spiritual coping strategies	[43]
Scale of personal religiousness	[52]	Spiritual coping strategies scale (SCS)	[43]	Spiritual well-being scale	[44]
Measure of religious involvement score	[53]	WHO-BREF assessment questionnaire	[55]	Short spiritual religious coping scale (Brief-SRCOPE)	[45]
Religion interview	[56]	Spirituality interviews	[59]	Duke University religion index Spiritual coping strategies scale (SCS-F)	[24]
The royal free questionnaire for spiritual and religious beliefs	[58]	Spirituality interviews	[60]	Standardized questionnaire	[51]
				Interviews	[54]
				Royal Free Questionnaire	[57]

Depression

Depression, anxiety and distress were evaluated with seven scales in 11 studies (Table 2). These studies included 2875 patients. In eight studies, a higher measured level of religiosity or spirituality correlated with lower values of depression [8, 12, 16, 26, 28, 40, 52, 60]. The rest of three studies made a distinction between positive and negative religious coping methods [31, 34, 37]. Positive coping techniques correlated with lower depression levels, while negative

coping scores were higher among depressed dialysis patients.

Adherence to treatment

In two studies (276 patients) religiosity manifested interesting and divergent correlations with adherence [17, 21]. In a smaller and older trial, there was no association between religious beliefs and adherence, in this population [21]. In a recent trial with 202 patients, after the multivariate

Table 2 Quality of life indicators and all the scales and scores used

	Quality of life indicators	Scales	References
1	QoL in general	WHOQOL-bref WHOQOL-SRPB Quality of life Score Health-related quality of life (HRQoL-Ferrans & Powers QLI Dialysis Version-III) Health-related quality of life (HRQoL-The Kidney Dialysis Quality of Life Short Form (KDQOL-SF), Version 1.3 World Health Organization Quality of Life brief Scale Brief Version – WHOQOL Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) Satisfaction With Life Scale (SWLS) Health status and quality of life (EQ-5D-3L)	[19, 37, 47] [19, 48] [12, 22, 58] [23, 55] [9, 25, 53] [28] [31, 34, 40, 44] [42, 44] [43]
2	Depression/anxiety/distress	Hamilton Depression Scale Beck Depression Inventory (BDI) Short Form of Depression, Anxiety and Stress Scale (DASS21) Center for Epidemiologic Studies Depression Scale (CES-D) Hospital Anxiety and Depression Scale (HADS) Anxiety Score Cognitive Depression Index (CDI)	[16] [8, 12, 28, 34, 40, 60] [26] [31] [37] [52] [60]
3	Treatment adherence (medication and dialysis)	Morisky Medication Adherence Scale-8 (MMAS-8)+Dialysis adherence Adherence to treatment Score	[17] [21]
4	Resilience/coping strategies	Interview/Questionnaire Resilience Scale Spiritual coping strategies scale (SCS) The Psychological Adjustment to Illness Scale-Self-Report (PAIS-SR) Meaning in Life Scale (MiLS) Coping Scale (Brief-SRCOPE)	[17, 36, 51, 54, 59] [20] [23, 24, 43] [25] [35] [45]
5	Social functioning	Multidimensional Scale of Perceived Social Support (MSP) Psychosocial Adjustment to Illness Scale–Self-Report (PAIS-SR) Social functioning & Dean Alienation Scale	[32] [38] [39]
6	Hope/optimism	Herth Hope Index (HHI)	[29]
7	Well-being	Spiritual Well-Being Scale Pittsburgh Sleep Quality Index (PSQI) questionnaire	[49] [57]
8	Burden of illness	Interview / questionnaire The Illness Effects Questionnaire (IEQ) McGill QOL (MQOL) questionnaire or Single-Item QOL Scale [SIS])	[15] [12] [42]
9	Risk of suicide	Risk of suicide (MINI)	[27, 56]
10	Physical health	Karnofsky Performance Status Scale	[42]
11	Mental health	Cognitive function (BMMSE) Mental composite score (MCS) of the SF-36 Mini International Neuropsychiatric Interview–MINI	[16, 50] [8] [27]

analysis, organized and intrinsic religiosity was associated with adherence to dialysis sessions, but not with adherence to medication [17].

Resilience & religious coping

Religion influenced resilience in a study that included 191 patients (measuring Resilience scale) [20]. Having a religious belief impacts positively on resilience, meaning that

people who claimed to have religion had a better mean score of resilience. In a study with 202 patients, Resilience was positively associated with MMAS-8 score, indicating that resilient patients show more adherence to medications [17] but less adherence to hemodialysis sessions.

Social functioning

Three studies [32, 38, 39] assessed 357 patients with three different scales (Multidimensional Scale of Perceived Social Support, Psychosocial Adjustment to Illness Scale–Self-Report (PAIS-SR) and Social functioning & Dean Alienation Scale). The patients who reported the most positive attitudes toward the importance of religious faith for the acceptance of their illness also demonstrated the greatest degree of interactional behaviour, the most positive assumption of appropriate sick role behaviour as manifested by compliance with the therapeutic regimen and the lowest degree of alienation. Moreover, Spinale et al. observed that an increased perception of social support in hemodialysis patients who participate in religious activities, translated into a higher survival rate [32]. This was the only study from our systematic review that reported an influence of R/S on mortality.

Risk of bias assessment

The quality of the observational studies ranged from 4 to 9, with a mean quality score of six. This corresponds to a moderate overall risk of bias, mostly due to the absence of a control group and lack of control for confounders. However, selection bias was high, follow-up was not long enough in most studies (out of studies reported outcomes within at least 12 months of follow-up).

Publication bias

Our review could not exclude publication bias of original studies, as probably authors that have not found positive effects of intervention or did not find any effect at all are less likely to publish their results.

Discussion

The objective of this review was to investigate the effects of religiosity and spirituality on the quality of life indicators of dialysis patients. We included 50 studies and 9265 patients.

Resilience

This concept describes a psychological construct in relationship with chronic diseases for a better enduring of the illness. It means the capacity to turn a terrible situation into something useful. One study assessing socio-demographic factors in CKD suggested that religiosity positively influences resilience [20]. In ESRD patients, resilience influences the adherence to treatment, but in an interesting manner: a higher measured resilience is associated with higher

medication adherence, but lower adherence to dialysis sessions [17]. One study assessing socio-demographic factors in CKD stated that religiosity influenced resilience [20]. In addition, both resilience scales (Wagnild & Young; Connor & Davidson) [17, 20] showed significantly lower values of resilience in dialysis patients, similar to those with depression, anxiety or schizophrenia. These findings suggest that besides dialysis, these patients require psychiatric medication and/or psychotherapy.

Adherence to treatment

Due to long suffering, co-morbidities and lack of hope (which generate delays, inconsistency or treatment discontinuation), maintaining and raising the adherence to treatment (medication and/or dialysis) in advanced CKD patients is crucial. The decision to follow and continue the treatment in dialysis patients is influenced by complex interaction between medical, psychological, social and – as our systematic review suggests—religious factors [3]. This intricacy overcomes the research objectives of a single trial.

Adherence is affected by religious faith, age and education: (a) Muslim dialysis patients do not give up the desire to live and take fewer decision to withdraw dialysis [16]; (b) Christian patients with extrinsic (religious behaviour) and intrinsic (strong beliefs and commitments) religiosity manifest a higher dialysis adherence [17]; (c) older age and greater dialysis vintage correlated with a higher adherence [21]; (d) patient counselling/education provides better health outcomes, improves adherence and potential reductions in healthcare related cost [55].

Quality of life (QoL)

Most of the studies included in our systematic review assessed QoL as an important predictor of morbidity and mortality in ESRD. Strong religious beliefs of dialysis patients were correlated with decreased perceptions of illness burden and increased perceptions of social support [12]. In fact, some studies suggested that religious feelings should be part of QoL measures and could be associated with improved survival in this patient population (although a realistic mechanism is unclear at present) [12]. Patients with intrinsic religiosity [21] are more satisfied with their lives than those with extrinsic religiosity (“*the use of religion to gain social acceptance or reward*” [64]).

Our systematic review points to the fact that religiosity is strongly correlated a better QoL [28, 40]. Potentially relevant explanation for this relevant finding are less depression symptoms, a lower suicide risk, positive correlates with hope and spirituality and possible associations with better mental health [27].

Few studies underlined the importance of targeting both psychosocial adjustment to illness and spirituality as modalities to preserve or enhance health-related QoL of predialysis or dialysis patients [3, 25, 43]. It seems that spirituality is more clinically relevant to QoL than religiosity [9]. It is important to underline that the spiritual well-being in these patients is relatively low, which means that assessing and addressing this issue in dialysis could be helpful [35, 44].

Finally, some studies consider that special patient counselling could play an important role in improving the QoL by “*changing their psychological thinking and bringing them toward spirituality*” [55].

Religious/spiritual coping

R/S coping is a complex research area since it draws from a multitude of theoretical frameworks and employs various schemas of methodology and measurement. There are several measurement tools designed to measure religious coping with physical, psychological and social stressors [11]. Four major themes of spirituality (acceptance, understanding, fortification and emotion modulation) could be involved in psycho-emotional adjustment of renal patients [33]. Religious coping could be one of the most important strategies for ESRD patients [45, 51]. Using positive religious coping strategies could alleviate depression symptoms [31, 37]. On the other side, negative strategies may lead to dysfunctional consequences: greater depressive symptomatology and lower QoL (“*two sides of the same coin*”) [34]. R/S coping mechanism rely on functions such as impulse control, anxiety reduction, meaning making, evolutionary adaptation, turning pain and suffering into a benign frame of meaning [65]. Subjective significance of R/S experience in dialysis targets deep levels: most of patients acknowledged that religion helped them to accept the disease, to find peace in suffering, live with the disease and cooperate better [22].

Clinical interventions for a holistic healthcare practice

An initiative of Kidney Health Australia and the Australian and New Zealand Society of Nephrology materialized in a renal supportive and palliative care position statement [66]. This is the only official paper that coined a “*holistic palliative care approach, [targeting] physical, spiritual, religious and psychological needs*”, and recommended that the approach to patients with ESRD should manage “*all aspects of the physical, emotional and spiritual dimensions of the illness and care of the family*”. “*It is therefore important that clinicians explore these beliefs with patients and their families. In modern societies patients may or may not have a religious faith, but all patients have spirituality.*” [66].

The prevalence of R/S coping in medical illnesses varies on general religiosity and the severity of the condition. “*Religious people recovered from depression 53% faster than other patients, independent of multiple psychological, social and physical health controls.*” [67] In the same time there are direct influences, be it positive or negative, on health practices. Different studies show positive correlation between religiosity and disease screening or medical compliance although in specific situations there are negative coping strategies such as avoiding medical care [67].

Assessment and prioritization of R/S are considered components of integrated, holistic therapy for patients with CKD [33]. Some doctors have become more receptive to the healthy and unhealthy use of religion, to positive and negative strategies of religious coping [34]. Thus, they were able to recognize and respect the religious needs of their patients, although they had not yet been trained in this new approach [68]. Social assistants and psychologists from multi-disciplinary teams in some dialysis centres have supported and stimulated various types of non-formal religious activities as positive methods of religious coping (reading religious literature, prayer, religious discussion groups) [31].

Although a limited number of studies have implemented an R/S intervention in dialysis patients and measured their impact on patient’ QoL, there are few examples of good practice among them. For example, a team of nephrologists from “*Gambro Healthcare*” (Hartford, CT, USA) included a chaplain in the multi-disciplinary team to integrate elements of spirituality in the treatment of dialysis. This improved team functionality has increased the sensitivity to patients’ spiritual needs [69]. In another interventional study, HD patients participated weekly in meetings with a spiritual counsellor, which led to a significant increase in their QoL [31]. However, inadequate spiritual assessment, the organizational structure and climate and lack of understanding of a chaplain’s role can prevent these services from being optimally utilized [70].

Limitations

With one exception, all the studies are observational, and their correlations do not indicate the causality of the issues discussed. The results, though interesting, remain sensitive to the size of the sample, demographic characteristics of the clinical population, religious affiliation and cultural context. Some benefits of R/S integration in the care of patients with CKD remain incompletely understood [12]. Many concepts have been proven to be important (hope, spiritual well-being, religious coping) but are not related to specific interventions.

Although many studies show the important role of R/S beliefs in ESRD patients, they have not been extensively incorporated into dialysis centres. There are only a few experimental centres, and most doctors still remain

un-instructed in the use of religion/spirituality in daily practice [31]. No study in our systematic review has demonstrated that addressing and treating QoL issues through R/S improves the major outcomes of patients with CKD. Current scientific research is still at the stage of assessing the QoL of dialysis patients in order to define, document and suggest appropriate therapies. However, it is a difficult process to develop strategies with a positive impact on QoL of these patients.

Future directions

It is still unclear how the religiosity of the patient with dialysis can be activated or lost/denied with the onset of the disease, as suffering affects availability for religiosity. Most importantly, the indication to recommend patients to embrace a particular religious belief is a sensitive matter and quite un-ethical. In addition, cultural sensitive studies [71] are needed to understand the concept of religiosity in different cultures and all the related aspects that may be associated with QoL. It is however essential to provide support and create protocols for R/S needs [39]. Although most patients want to discuss issues about R/S with their nephrologists, only < 30% of them claimed that their beliefs have been asked, while at least 55% believed that physicians should ask them [28].

Increasing the QoL in patients with hemodialysis is a major and urgent objective to be achieved in the coming years. Patients with CKD come with their strategies for adapting and improving the QoL that need to be evaluated, monitored and supported by health care institutions. These could provide psycho-emotional support programmes and activities to develop skills to adapt to chronic disease, integrating R/S dimension as a primary resource. Some recent researches suggest that religiously integrated cognitive behavioural therapy is more effective than standard CBT in individuals with chronic conditions [72] to tackle psychological distress (anxiety and depression)—conditions with a strong impact on QoL in dialysis patients.

Patients with limited religious/spiritual interests may be targets for different psychosocial interventions provided by psychologists or psychotherapists through specific programmes. Nevertheless, longitudinal studies, especially interventional, are required to show the effects of R/S coping on QoL. It should be proved that spiritually integrated treatments outperform secular therapies, and should be considered a distinctive addition to outcomes [65]. Finally, specialists need to develop coping strategies based on the values, beliefs, cultural and social issues of renal patients [36].

Conclusions

In this systematic review, we presented a body of evidence synthesizing the studies involving religiosity/spirituality assessment in dialysis patients and their benefit on quality of life. It seems that R/S has a positive impact on most QoL parameters in 5D-CKD. We underline the suggestions made by one of the included studies: “*An incorporation of religious beliefs and practices can add a significant dimension to the treatment of CKD in the reduction of stress and the ability to cope and manage more effectively.*” [22]. Also, we consider that the nephrology guidelines on palliative care and/or elderly should include specific recommendations on religious/spiritual support and opportunities for integrated specific therapies.

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Compliance with ethical standards

Conflict of interest none declared.

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