

What Coping is Effective in Patients with Chronic Kidney Disease Undergoing Hemodialysis?: A Literature Review

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ABSTRACT This study aims to determine the coping strategies that have the most impact on the quality of life of chronic kidney disease patients undergoing hemodialysis. This study used a literature study and searched for PubMed, Scopus, Clinical key, Sciencedirect, EBSCO, and other related journals from 2010 to 2020 with keyword syntax for each database. Eighteen articles were included in the review. The results showed that there were several coping strategies such as self-management, spiritual strategies, clinical and somatic symptoms that were associated with the quality of life of patients with CKD. The spiritual/religious coping strategy is a coping strategy method that can improve the quality of life and reduce stress in CKD patients undergoing hemodialysis. Teaching spiritual/religious coping strategies should be considered by health workers in Indonesia as a therapeutic treatment to improve the quality of life of patients with chronic kidney disease.

INTRODUCTION

Chronic Kidney Disease (CKD) is a disease caused by the inability of the kidneys to maintain body homeostasis (Lazzaretti et al. 2004). CKD is still a health problem in several countries, including Indonesia. This can be seen from the increasing number of new cases of hemodialysis (HD) patients in Indonesia which continues to increase from year to year. In fact, in 2018 the increase in new cases increased by 100 percent from the previous year, from 30831 in 2017 to 66433 cases (Kêdziarska-Kapuza et al. 2021). CKD sufferers must undergo hemodialysis regularly in order to survive (Gela and Mengistu 2018). These conditions not only affect the patient's physical condition but also psychosocial conditions so that they interfere with the patient's mental health (Zarrin et al. 2020). This condition will affect the Quality of Life (QoL) so that the patient has a low life expectancy. Patients have

various coping strategies when symptoms and complications occur (Koenen et al. 2019).

One of the palliative services that can help CKD patients live their lives is by increasing the quality of life (QOL) (Hwang et al. 2018). Several previous studies have examined that increasing quality of life can reduce morbidity and mortality rates in patients with CKD (Bayhakki et al. 2019). Quality of life is an individual's perception of the quality of life which includes physical, social and emotional conditions (Straßner et al. 2019). Several studies have discussed the importance of quality of life in reducing patient morbidity and mortality (Nihata et al. 2017). most significant factors in increasing the quality of life of patient with CKD (Santos et al. 2017).

CKD patients undergoing hemodialysis are at risk of experiencing a decrease in Quality of Life because there is an increased risk of physical and psychological morbidity. Indeed, the initial diagnosis may be related to emotional and physical disturbances that can be just as problematic as hemodialysis. However, many patients rely on their coping mechanisms to deal with

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physical and psychological challenges, resulting in improved quality of life. In addition, there is no literature reviewing effective coping strategies in CKD patients undergoing hemodialysis.

Objective

The purpose of this paper is to examine the literature on coping strategies that have an impact on improving the quality of life of CKD patients undergoing hemodialysis.

METHODOLOGY

This is a systematic literature review study used the PRISMA statement. PRISMA statement helps to ensure the clarity and transparency of reporting systematic review and recent data indicate that this reporting is much needed (Zarrin et al. 2020). Method of the analysis and inclusion criteria in this study were specified and documented in the protocol.

Eligibility Criteria

This study considered publications eligible for review if they meet these criteria: (1) primary studies; (2) ten years limitation; (3) published in English and peer-reviewed; (4) both abstract and paper are open accessed. These inclusion criteria allow the study to measure only variables related to quality of life patient with CKD. Publications are excluded if they are book, reporting, proceeding, and grey literature.

Search Strategy

The search was conducted by two reviewers independently by searching the electronic database: PubMed, Scopus, Ebsco, Clinical Key, Google Scholar, Wiley, ProQuest. Investigations were carried out using the following terms: "Chronic Kidney Disease", "hemodialysis", "quality of life", "religious coping strategies", "CKD" and "coping strategies", "hemodialysis" and "spiritual coping", and "self-management" and "CKD".

RESULTS AND DISCUSSION

Study selection starts with screening the existing title and abstract according to predeter-

mined criteria. Publications were included if they were written in English and published in a peer-reviewed journal. Furthermore, publications are up to 2010 with related the search term in the title, abstract and keyword. All publications considered potentially relevant were retained, and the full text was reviewed for eligibility. The disagreement was resolved through discussion to reach a final decision by the reviewers. Finally, by excluding some paper that did not meet the criteria, 18 articles were included in this study. The finding was organized with a cumulative frequency of paper that analysis some variables related to quality of life of patient living with CKD. An analysis of the empirical literature according to the dimensions depicted in the next discussion (Yusuf et al. 2020a).

Coping strategies either Problem Focused Coping (PFC) or Emotion focused coping (EFC) can both be used to deal with stress. Behavior that is often manifested by changing stressors that are believed to be controlled and changed positively by learning new skills by directly dealing with stressors. Problems focused coping which leads to more direct problem solving, PFC can be directed both in the environment and on oneself. Meanwhile, another coping strategy is emotion focused coping. This coping strategy is more emotionally oriented, which is an attempt to relieve or manage emotional stress that occurs when individuals interact with the environment (Lazarus and Folkman in Nevid 2003). A total of 18 papers were categorized based on variables that influence the quality of life of patient with CKD. The variables that have been researched and proven to be able to improve the quality of life and satisfaction in life are spiritual coping and religious coping. However, other coping methods (emotion-focused and problem-focused coping strategies) can also increase the quality of life. Several other variables studied were also related to the patient's self-management, personality and lifestyle as well as clinical and somatic symptoms which inevitably affect the quality of life and happiness of patients living with CKD (Yusuf et al. 2020b).

Quality of Life (QOL) becomes The important thing in palliative care for patients with chronic diseases, including CKD (Speyer et al. 2016). This is because by increasing QoL patients will feel happier and will have an impact on ongoing

Table 1: The data matrix analysis of empirical paper included the review (2010-2020)

<i>S.No.</i>	<i>Author, Year</i>	<i>Method</i>	<i>Outcome</i>
1	Isik Ulusoy and Kal 2020	<i>Design:</i> Cross-sectional <i>Subject:</i> 117 patients <i>Variables:</i> QOL, coping and psychiatric comorbidities in patient hemodialysis: Depression Scale and Anxiety Scale <i>Instrument:</i> QOL (Medical outcome short form 36-MOS 36), coping (Assessment Scale for Coping Attitudes-COPE) and psychiatric comorbidity in patient hemodialysis. The Beck Depression Scale and the Beck Anxiety Scale were also applied to the <i>Analysis:</i> T-test and anova.	Emotion-focused coping strategies has positively correlated with better QOL and reducing the risk of depressive disorder
2	Mengistu 2018	<i>Design:</i> Cross-sectional <i>Subject:</i> 169 out of six private health facilities between March and April 2016. <i>Variables:</i> Education, knowledge, patient self-efficacy, anxiety, self-management <i>Instrument:</i> Questionnaire, hemodialysis self-management instrument. (HDSMI), hemodialysis knowledge questionnaire. Chronic Illness Self Efficacy Scale. The Hospital Anxiety and Depression Scale (HADS). Perceived Social Support (MSPSS) <i>Analysis:</i> Descriptive, correlation, and logistic regression	Significant positive association between self- management and education, while there is a statistically significant negative association between self-management and anxiety
3	Montes et al. 2020	<i>Design:</i> Comparison <i>Subject:</i> 55 people with chronic kidney disease <i>Variables:</i> Personality, coping style, life satisfaction <i>Instrument:</i> SWLS, CAEPO and MIPS <i>Analysis:</i> Regression	There is an influence between personality and life satisfaction There is an influence between active coping and life satisfaction
4	Hwang et al. 2018	<i>Design :</i> Cross-sectional <i>Subject:</i> 49 patients <i>Variables:</i> Main coping strategy (CS), non-adherence and comorbidity, Problem Focus Coping <i>Instrument:</i> Korean version of the CS questionnaire (K-WCQ), comorbidity as measured by the age-adjusted Charlson comorbidity index (CCI), and adherence as measured by the Morisky 8 item treatment adherence scale (MMAS). <i>Analysis:</i> Regression	Severity of somatic symptoms was positively correlated with emotion-focused CS (EFC) scores. Life satisfaction rates were positively correlated with problem-focused CS (PFC) scores.
5	Niihata et al. 2017	<i>Design:</i> Cross-sectional <i>Subject:</i> 1,354 hemodialysis patients <i>Variables:</i> Stress coping strategy, <i>Instrument:</i> Coping Strategies Inventory Short Form <i>Analysis:</i> Regression is	PFC associated with longer survival and improved physical function and mental health and improving quality of life in hemodialysispatients under stress.
6	Darvishi et 2019 al.	<i>Design:</i> Quasi-experimental (12 60-minute spiritual healing sessions held for the experimental group twice a week). <i>Subject:</i> 24 Patient <i>Variables:</i> Spiritual healing, spiritual	Positive spiritual therapy can increase quality of life, sleep quality, positive beliefs about disease and treatment, adherence and satisfaction to treatment.

Table 1: Contd...

<i>S.No.</i>	<i>Author, Year</i>	<i>Method</i>	<i>Outcome</i>
7	Saffari et al. 2013	well- being, self-esteem, self-efficacy <i>Instrument:</i> Paloutzian and Ellison's spiritual well-being scale, Cooper Smith's Self-Esteem Inventory, and Sherer Self Efficacy Scale. <i>Analysis:</i> T-test <i>Design:</i> Cross sectional <i>Subject:</i> 362 patients <i>Variable:</i> Spiritual / religious, demographic, clinical symptoms, quality of life <i>Instrument:</i> Duke University Religion Index, EQ-5D 3L, demographic questionnaire	Spiritual religious regression proven to be related to quality of life Demographic (age, sex, marital status, number of children) and clinical symptoms (BMI, serum albumin, comorbidity) related to quality of life
8	Bayhakki et al. 2019	<i>Analysis:</i> <i>Design:</i> Ethnography <i>Subject:</i> 12 participants <i>Variables:</i> Identified themes: (1) Meaning of self-caring (2) Actions in self-caring (3) Islamic influences to self-care living (4) Cultural influences to self-care <i>Instrument:</i> Interview	Islamic and cultural influences self caring patient hemodialysis are in
9	Kristofferzon et al. 2018	<i>Analysis:</i> Observation, medical records <i>Design:</i> Cross-sectional <i>Sample:</i> 292 patients with chronic disease (chronic heart failure, end-stage kidney disease, multiple sclerosis, stroke, and Parkinson's) <i>Variables:</i> Sense of coherence, coping that focuses on emotions, coping that focuses on problems, coping efficiency, and quality of mental life (quality of life) adjusted for age, sex, level of education, comorbidity, and status the economy. <i>Instrument:</i> Questionnaire	There are significant direct and indirect effects of a sense of coherence on mental quality of life through three mediators (Emotion focused coping, problem focused coping, and coping efficiency).
10	Bertolin 2016	<i>Analysis:</i> Regression <i>D:</i> cross-sectional <i>S:</i> 107 patients undergoing hemodialysis <i>V:</i> coping strategies with clinical variables and patient lifestyle <i>I:</i> Coping Strategies Inventory of Folkman and Lazarus and semi-structured questionnaire	Clinical variables can trigger the stress and it can be mitigated by emotion coping strategies
11	Santos et al. 2017	<i>Analysis:</i> Regression <i>Design:</i> Cross-sectional <i>Subject:</i> Includes 161 ESRD patients over 18 years of age who have undergone HD for more than 3 months <i>Variables:</i> Methods of overcoming religion/ spiritual (R / S) and quality of life and depression among ESRD patients undergoing hemodialysis. <i>Instrument:</i> Religious Coping Questionnaire (RCOPE). Depression was evaluated using the 20-item version of the Depression Epidemiological Study (CES- D). QOL (SF-36) <i>Analysis:</i> Regression	Of Religious / Spiritual treatment methods related to quality of life and depression among HD patients.

Table 1: Contd...

<i>S.No.</i>	<i>Author, Year</i>	<i>Method</i>	<i>Outcome</i>
12	Vitorino et al. 2018	<i>Design:</i> Cross-sectional <i>Subject:</i> 184 patients HD <i>Variable:</i> Role of SRC behavior on HRQoL and depressive symptoms <i>Instrument:</i> Beck Depression Inventory, Brief SRC Scale, Medical Outcome Study 36-Item Short-Form Health Survey (SF - 36), and Socio-demographic and Health Characterization Questionnaire. <i>Analysis:</i> Regression	Spiritual/ religious coping has positive and negative effects on mental health and HRQoL in hemodialysis patients.
13	Vitorino et al. 2018	<i>Design:</i> Cross-sectional <i>Subject:</i> 77 family caregivers (FCs) of pediatric cancer patients <i>Variable:</i> Religious coping (SRC) and depressive symptoms in family caregivers (FCs) coping <i>Instrument:</i> Spiritual / religious were assessed using the Short SRC scale, and depressive symptoms were evaluated with the Beck Depression Inventory <i>Analysis:</i> Multiple regression	Spiritual Religious Coping did not correlate with the incidence of depression symptoms in Giver Family Care of pediatric cancer patients.
14	Cruz et al. 2017	<i>Design:</i> Cross-sectional <i>Subject:</i> 168 patients HD <i>Variables:</i> Religiosity and spiritual coping (SC) on health-related quality of life. <i>Instrument:</i> Guided interview questionnaire (HRQoL) Arabic version <i>Analysis:</i> regression	Older patients were found to show higher levels of religiosity, while younger ones showed a higher level of factors that could influence respondents' HRQoL identified as involvement in Religious Practices, intrinsic religious beliefs, use of religious coping and age.
15	Davison and Jhangri 2013	<i>Design:</i> cohort study <i>Subject:</i> 253 CKD patients <i>Variables:</i> Psychosocial adjustment to illness, Existential Well Being and Health- related Quality of Life <i>Instrument:</i> Psychological Adjustment to Illness Scale-Self Report (PAIS-SR), Kidney Dialysis Quality of Life Short Form Ver.1.3 (including SF-36TM) <i>Analysis:</i> regression	Existential well being (EWB) which is part of a spiritual factor has a significant effect on the mental health of patients with CKD Psychosocial adjustment to illness does not show an effect on mental health
16	Chatrung et al. 2015	<i>Design:</i> Qualitative <i>Subject:</i> 8 participants living with CKD <i>Variables:</i> Themes are: wellness, self-care, impact of illness in life, and religious coping <i>Instrument:</i> indepth-interview	Good selfcare and self- management led to wellness and improve quality of life Religious coping provide a belief system that helps to accept the condition and improve quality of life.
17	Davison and Jhangri 2010	<i>Design:</i> Cohort study <i>Subject:</i> 253 CKD patients <i>Variables:</i> Psychosocial adjustment to illness, Existential Well Being and Health- related Quality of Life <i>Instrument:</i> ESRD spiritual believe scale, Kidney Dialysis Quality of Life Short Form Ver.1.3 (including SF-36TM), spiritual perspective scale, spiritual well being scale.	There is a correlation between religiosity and HRQoL Existential well being associated with several domains in HRQoL
18	Loureiro et al. 2018	<i>Design:</i> Cross sectional <i>Subject:</i> 264 patients with CKD <i>Variables:</i> Religiousness, spiritual well being, mental health (depression and anxiety, risk of suicide <i>Instrument:</i> Duke Religion Index, FACIT- Sp 12, Mini International neuropsychiatric interview, MINI. <i>Analysis:</i> Logistic regression	Spiritual well being has an effect on lower risk of suicide, depression and anxiety Religiousness is not related to mental health

treatment (Bertolin 2016). This study aims to review how QoL can be improved through a significant number of variables.

Almost all articles stated that patients with CKD have a tendency to decline in mental health, such as discomfort, depression and anxiety that led to risk of suicide (Aditya et al. 2021; İpýk Ulusoy and Kal 2020). All subjects in the study that were reviewed were elderly patients where this age is more at risk for chronic disease than the other age ranges (Vitorino et al. 2018a; Aditya et al. 2020). Although it does not rule out the possibility that youth can also develop chronic disease (Reynolds et al. 2016). Some of the variables that play a role in influencing QoL include the coping strategies used, self-management, clinical and somatic symptoms, and the patient's personality or lifestyle (Vitorino et al. 2018b). This will be discussed further.

Coping strategies are a way for patients to make peace with stressors and accept the condition as they feel. All articles agree that the coping strategies used can help improve QoL of CKD patients (Qureshi et al. 2020). This is in line with the development of instruments for measuring coping strategies developed in patients with CKD (Cruz et al. 2017). In this study, several coping strategy methods discussed were problem-focused coping strategies (PFC), emotion-focused coping strategies (EFC), spiritual / religious coping strategies (S / RC) (Pilger et al. 2016).

Several articles focus on comparing the effectiveness of PFC and EFC in increasing QoL of patients with CKD (Cope 2015). But uniquely, most of the articles focus on spiritual / religious coping strategies that are considered more appropriate for CKD patients than the other two methods (Henriette et al. 2019). This can happen because in general, humans will be more religious and spiritual when they grow older (Bravin et al. 2019). In addition, religious activities will create a religious community which becomes the important social support needed by CKD patients (Dyro 2019). Spiritual and Religious are often interpreted the same but in reality are different (Hamler et al. 2018). Religion is more inclined towards belief in God, worship or religious rituals. Meanwhile, Spiritual is more meaningful in the value of transcendence of life which is believed to be a source of eternal happiness (Darvishi et al. 2020).

Proof of spiritual / religious coping in increasing QoL of CKD patients is also in line with evidence of personality factors. Personality that is manifested in pleasure-enhancing personality in CKD patients can increase life satisfaction (Kristofferzon et al. 2018). Spiritual and religious therapies and practices are powerful therapeutic tools and are commonly used across the world (Montes et al. 2020). religious coping strategies are used in several countries including Brazil, Turkey, Arab, Malaysia, and even Thailand using different indicators (Santos et al. 2017). This difference is because the values of spiritual and religious beliefs that are held by each country are different according to their respective cultures. This is a new challenge and focus for the development of indicators and instruments of spiritual / religious coping in Indonesia (Hamler et al. 2018).

CONCLUSION

Variables that related to quality of life of patients with CKD are coping strategies, self management, clinical and somatic symptoms. The coping strategies included problem-focused coping strategies, emotion-focused coping strategies, and spiritual /religious coping strategies. Spiritual/religious coping strategies is the factor that most discussed in this disease and should be considered by provider in Indonesian as one of therapeutic care for patient with chronic kidney disease.

RECOMMENDATIONS

Recommendation for further research is that it is necessary to develop a model of spiritual coping strategies based on the values of belief, religion, and culture in Indonesia.

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