

INTERVENTION OF COGNITIVE BEHAVIOR THERAPY AND SELF EFFICACY TRAINING ON SELF MANAGEMENT OF CHRONIC KIDNEY DISEASE PATIENTS: SYSTEMATIC REVIEW

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ABSTRACT

Chronic kidney failure (CRF) is one of the leading causes of death in Indonesia. This is a concern for health workers to keep the disease under control, prevent physical, psychological and social damage and complications. Active involvement in patient self-management is one of the keys to prevent further damage to kidney function and slowing the progression of the CRF stage. Improved self-management of CKD patients can be provided through education and training programs such as self-efficacy training and cognitive behavior therapy (CBT). Both methods focused on reducing anxiety and depression as well as increasing self-efficacy have been shown to improve patient self-management behavior. In this systematic review study, several research literature on CBT interventions and self-efficacy were reviewed in patients with end-stage renal failure. This study reviews CBT interventions and self-efficacy training on self-management in chronic renal failure patients. Systematic review by looking for research studies from electronic databases (Scopus, PubMed, Science direct and ProQuest) with randomized control trial and quasi-experimental designs published in 2015-2020 and have been published internationally indexed Scopus Q1, Q2 and Q3 and indexed SINTA-2. The research studies analyzed were related to CBT, self-efficacy training and self-management with chronic kidney failure patient respondents. Based on the literatures, therapies that have a high level of recommendation in improving self-care in patients with CRF are CBT and training to increase self-efficacy. This is evidenced by the strong effect size value. However, some journals use a sample size that is not representative, the instrument used is the previous instrument and the intervention method used is quite complex. Twenty five reports have been reviewed shows that CBT and self-efficacy can be an effective intervention that can be applied to improve self-management in CRF patients.

KEYWORDS: Cognitive Behavior Therapy, self-efficacy, self-care management, chronic renal failure.

PRELIMINARY

Non communicable disease (NCD) or what is called non-communicable disease has become a world issue where its development is increasing, especially in cases of non-communicable diseases. One of the chronic diseases that need attention is chronic kidney failure, which is a complication of several NCDs such as hypertension, diabetes mellitus, and other renal diseases. Chronic renal failure is a progressive, irreversible decline in renal function when the kidneys are unable to maintain metabolic balance.^[1]

Based on data from the World Health Organization or the World Health Organization, it shows that those suffering from kidney failure both acute and chronic reached 50%, while those who were known and received treatment were only 25% and 12.5% who were treated well.

Chronic kidney failure is a health problem with an increasing prevalence of patient numbers, it is estimated that by 2025 in Southeast Asia, the Middle East and the Mediterranean and Africa it will reach more than 380 million sufferers, it is influenced by factors of population growth, urbanization, increasing the aging process, unhealthy lifestyle and obesity.^[2]

Reported by RISKESDAS in 2018 shows the prevalence rate of patients with chronic kidney failure in Indonesia was 3.8%, previously 2.0% in 2013. The prevalence rate of chronic kidney failure patients who have been or are undergoing analysis in 2018 in Indonesia is 19, 3 %.^[3]

Hemodialysis is the most frequently used therapy, in the United States and Europe about 46% -98% of patients undergoing hemodialysis therapy, although hemodialysis can effectively contribute to prolonging the patient's life,

the morbidity and mortality rates are quite high, only 32% - 33% of patients undergoing hemodialysis therapy survived the fifth year.^[4]

Chronic kidney failure and hemodialysis are events that can cause negative emotional experiences called stressors. Stressors that are able to be responded to well can make individuals grow to be more mature. On the other hand, if not responded to properly, it can trigger a psychological response. Patients undergoing hemodialysis experience both physiological and psychosocial stressors.^[5] Patients undergoing hemodialysis experience both physiological and psychosocial stressors.^[6] The types of physiological stressors reported include sleep disturbances, muscle weakness and, abdominal pain.

The types of psychosocial stressors that can be experienced are restrictions on food consumption, fluid restrictions, uncertainty about the future, a decline in social life,^[7] limitation of recreational activities, limitation of time and place of work, duration of the dialysis process, economic and spiritual factors to a decrease in the quality of life. This response involves two mechanisms, namely biological and psychological depending on age, gender, marital status, education, occupation and the environment in which they live.^[8]

Physical changes from chronic kidney disease that have reached stage five are not limited to the kidney system. Other body systems can also be affected and this can lead to decreased health status and quality of life. Some of the changes that occur in patients with chronic kidney disease, namely, separate physical changes, each of which has the potential to reduce the quality of life, while psychological changes (psychological changes), the patient's psychological response to the disease can vary and are often associated with loss, whether actual or potential, and has been likened to the grief process. One form is depression,^[9] it is known that depression can decrease the body's immune response, and for a patient with stage five chronic kidney disease adding depression to his or her mind can further exacerbate the situation.^[10]

Given the poor outcome due to stressors that appear in patients with chronic renal failure, a comprehensive management of the concept of nursing is needed, including the provision of education and counseling.^[11] The condition in chronic renal failure patients is often hopeless in treatment, so the potential for non-compliance with the recommended program. This makes patients need inner awareness to be able to change their mindset (cognitive) and direct more positive emotions and be able to adapt adequately to form behaviors that can improve self-care.^[12]

Patients with Chronic Renal Failure also need skills in self-care. Currently, the self-care ability of patients in the community has become a world concern along with the increasing incidence of chronic diseases in the world.

The condition of the increase in medical costs and the insufficient number of educators also contributed to the reasons why self-care was important to improve as an effort to improve the quality of life of patients with chronic diseases.^[13] In a study conducted by Nurcahyani, patients with chronic kidney failure showed that there was a direct and significant relationship between self-care abilities and quality of life, physical, psychological, and social dimensions.^[14]

Kidney failure patients undergoing dialysis have complex problems in their physical, psychological, social, spiritual and economic conditions. Because of this, it becomes important for patients with chronic kidney disease who undergo hemodialysis to have a positive mindset in accepting and adapting adequately to the physical changes experienced and increasing self-efficacy in adhering to self-care regimens, because this is necessary to determine an act or not. This self-efficacy assessment is a bridge between knowledge and actual self-care behavior.^[15] Based on the above phenomena, the interventions that are often carried out to reduce anxiety and depression are cognitive behavior therapy (CBT) and for self-efficacy action by being given Self-efficacy Training (SET) interventions.

Cognitive Behavior Therapy (CBT) is a form of intervention that aims to help someone recognize, prioritize, and connect thoughts, feelings and symptoms by using cognitive techniques (thoughts) and behavior (behavior). CBT assumes that thoughts, feelings, and behaviors influence one another.^[16] Cognitive affects a person's emotional reactions and behavior. Cognitive gives meaning to a situation that forms thoughts, beliefs, and interpretations of the situation. The behavior influences in maintaining or changing the psychological condition of an individual. By changing behavior, often thoughts and emotions about something will also change.^[17]

Cognitive Behavior Therapy is more problem-focused, short-lived, and involves clients doing something for themselves, fast and lasting. Besides,^[18] can be adjusted according to the speed of thought and intellectual capacity of the user. Cognitive Behavior Therapy can be delivered in simple language without the use of complicated medical terms. However, Cognitive behavior therapy also has weaknesses, according to Corey, it places too much emphasis on positive thinking, the counseling is too superficial and simple, rejects the importance of the counselee's past, too much emphasis on techniques., external factors such as family support and social environment are not so processed in this therapy, and ignore the feeling factor.^[19]

Self-efficacy Training is an effort to increase self-efficacy carried out by means of training (training). Self-efficacy training in the context of health is an activity of teaching or training patients so that these patients have faith in their ability to care for themselves. The weakness

of this self-efficacy training according to Bandura is that it is not related to increasing the client's skills, but is only related to the belief about what he can do with the skills he has no matter how big.^[20]

In preliminary observations that have been carried out by observing the most widely conducted and published research data files in various accredited international journals. As a result, more than 500 research titles were found regarding interventions in self-management, especially cognitive behavior therapy and self-efficacy training interventions published in the 2015-2020 range. Various research studies on social-psychological interventions based on self-efficacy and cognitive behavior therapy, including psychotherapy, psycho-education, and interventions that contain elements such as: education, training, goal setting, cognitive restructuring, behavioral strategies, relaxation training and stress management. Multimodal intervention, comprising psychological strategies and other therapies (e.g., exercise).

Data from various previous studies are available in abundance in the form of published journals from abroad. Unfortunately there are not many studies and studies on the results of research studies to summarize the results of a research theme. Research based on existing data can produce a new theory regarding the theme under study, besides that the results can also be used to strengthen the results of previous research. This

research can be done using a systematic review research method.

Several studies to examine cognitive behavior therapy interventions and self-efficacy training have been carried out in terms of psychological outcomes. However, the assessment of the combination of training on increasing self-efficacy and cognitive behavior therapy on the outcome of improving self-management does not appear to have been studied in depth. This encourages researchers to conduct a systematic review of the analysis of these two interventions on self-management from various countries.

METHOD

Research design

This study uses Systematic Literature Reviews, which aims to determine the effectiveness of the cognitive behavior therapy model and self-efficacy training on self-care management in patients with chronic kidney failure with hemodialysis.

In this study, the researchers conducted data searches through a journal-portal website that could be accessed such as *MEDLINE*, *Elsevier (SCOPUS)*, *ScienceDirect*, and, using the selected keywords, namely: cognitive behavior therapy, self-efficacy training, self-care management and patients with chronic kidney failure with hemodialysis.

Table 3.1: Research Inclusion Criteria.

Criteria	Inclusion
Period	The maximum period for publishing the journal is 5 years
Time	(2015-2020)
Language	Indonesian and English
Subject	Adult humans
Journal type	Original research article (not a review research) Full text available
Content theme	The theme of cognitive behavior therapy, self-efficacy training, self-care management and patients with chronic renal failure with hemodialysis.
Journal	

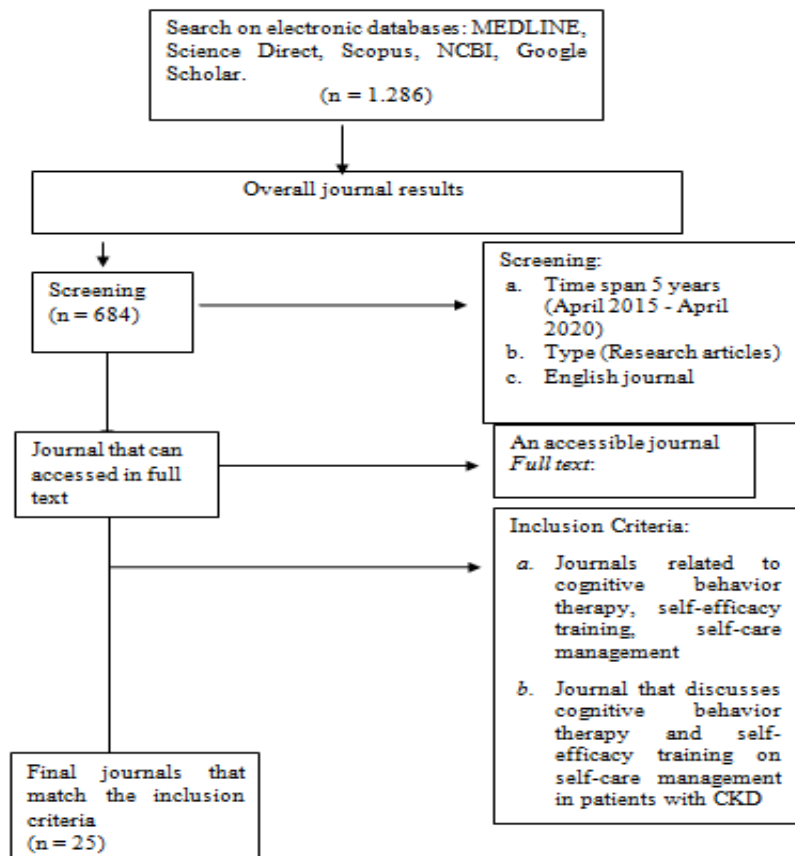


Figure 3.1: Literature Search Flow Diagram Cognitive Behavior Therapy Intervention and Self Efficacy Training on Self-Management in Patients with Chronic Renal Failure

RESEARCH RESULT

Results of Literature Studies

Of the 25 studies that met the criteria for this systematic review, it was found that 21 studies were used *Randomized controlled trial*, 4 studies using quasi-experimental design. Study results are grouped according to the determined variables, namely self-efficacy intervention, cognitive behavior therapy and self-management.

Demographic Overview of Journal Analysis Results

A total of 25 studies involving 2138 adult respondents with chronic renal failure with hemodialysis. Seven studies (28%) were conducted in Iran. Six (24%) in the USA, three (12%) in Taiwan, one (4%) in Hong Kong, one (4%) in Japan, two in (8%) Korea, one in (4%) India, two in (8%) in Germany, one in Australia (4%), one (4%) in Egypt, one (4%) in the UK and one (4%) in Mexico.

Respondents in the study had an average age of 18 - 65 years and were multi-regional. Gender characteristics of respondents are almost the same between men and women because the study is comprehensive. All respondents were pre-ESRD and ESRD chronic renal failure patients. Based on 25 research studies on the perceived psychological impact, more than 50% of respondents have the same psychological problems.

Overview of Data Retrieval

A total of 1,286 English-language publications were identified in the initial search. After screening for titles and abstracts, 104 journals were taken on full text criteria. A total of 25 studies met the requirements for the inclusion criteria. 21 journals used the randomized control trial method, 4 used the quasi experiment.

Of the 25 research studies that meet the inclusion criteria, there are 9 journals that discuss self-efficacy training as the main intervention and self-efficacy as a strategic mediator in self-management, 11 journals discuss Cognitive behavior therapy or as an intervention and 5 journals discuss self-management.

The means of providing face-to-face interventions in 12 studies (48%), combination of telephone and face-to-face interventions in 7 studies (28%), and telephone in 6 studies (24%). The duration of the intervention was 4 weeks in six studies (24%), 6 weeks in four studies (16%), 8 weeks in eight studies (32%), 10 weeks in two studies (8%), 3 months in four studies (16%), and 9 months in one study (4%). All studies were published between 2015-2020. Some research studies using a theory such as the study conducted by Tahereh also use self-efficacy theory as the basis for educational interventions carried out.^[21] Lee's study used self-efficacy as a theoretical structure for the intervention.^[22]

From 25 research studies, it was found that various instruments were used to measure each study result. instrument with a self-efficacy scale for health behavior in patients with chronic disease,^[23,24] CKD Self-efficacy Scale,^[25] Self-efficacy for Managing Chronic Illness. 6-Item Scale self-efficacy,^[26] the Self-efficacy for Exercise (SEE) scale,^[27] Chronic Disease Self-efficacy Scale for Managing Disease in General,^[28] *The Chronic Disease Self-Management Program's* (CDSMP) Diabetes Self-efficacy Scale,^[29] and the Chronic Kidney Disease Self-Efficacy Scale.^[30] The Kauric-Client research study used a Blood Pressure Control and Self-efficacy scale which was adapted from the original Self-efficacy scale in the management of Type II Diabetes Mellitus developed by Bijl, Peolgeest- Eeltink, and Shortridge-Baggett.^[31] *Instrument Patient Health Questionnaire-9* (PHQ-9) and *Generalized Anxiety Disorder-7* (GAD-7) to measure depression and anxiety. Hospital Anxiety and Depression Scale (HADS)^[32] In a study conducted by Griva where self-management was measured using self-monitoring and insight, constructive attitudes and approaches using the Health Education Impact Questionnaire Version 2 instrument.³³ The BDI and Beck Anxiety Inventory (BAI).^[34,36]

Self-efficacy instrument and self-management behavior in patients with chronic kidney disease, where self-

management uses 6 indicators.^[21] The Hemodialysis Self-Management Instrument (HDSMI) was developed to measure the level of self-management in a study in Taiwan.^[37] Instrument Center for Epidemiological Studies Depression (CES-D) and Functional Assessment of Chronic Illness Therapy Fatigue (FACIT-F) used in the study Jakubowski.^[38] *The Quick Inventory of Depressive Symptomatology Self Report* (QIDS-SR16) scale³⁹. The self-management measurement instrument used by Lee in his research study is the 31-item self-care practice scale which is a modified and additional version of the 24-item instrument developed by Song (2000).^[40]

A. Effect size

To find out the magnitude of the influence on the research studies found, it can be seen by calculating the effect size. Effect size is a measure of the magnitude of the effect of a variable on other variables, the magnitude of the difference and the relationship, which is free from the influence of the size of the sample. The effect size can be used to determine variables that can be investigated further. The effect size can also be considered as a measure of the success rate of the study. Acquisition of Effect size values can be seen in Table 4.4.

Author	Intervention of	Mean		Standard Deviation		Results of Effect size
		Control	Experiment	Control	Experiment	
Tahereh ^[21]	<i>Educational based on Self efficacy theory</i>	14.16	18.50	2.74	2.69	1.60
Shu FV WU ^[41]	<i>Self-efficacy training</i>	60.27	66.27	14.37	15.81	0.53
Ramezani ^[42]	<i>Self-efficacy training</i>	13.74	15.91	2.99	2.45	0.79
Kauric Klein ^[31]	blood pressure education and self-regulatory counseling	-3.72	6.64	6.80	6.92	1.51
Ghargani ^[43]	<i>Self-efficacy training to improvement mental health</i>	83.68	100.05	10.21	11.82	1.48
Kamal solati ^[24]	<i>Mindfulness-Based Cognitive Therapy</i>	43.4	38.6	8.3	7.5	0.60
Zolfaghari partners ^[44]	Cognitive behavioral training	40.9	17.6	8.46	7.70	0.53
Valsaraj ^[32]	<i>Cognitive behavior therapy</i>	9.21	6.82	2.69	1.86	1.04
Lerma ^[34]	<i>Cognitive behavior therapy</i>	15.8	13.6	10.0	7.6	0.95
Huang ^[45]	<i>Cognitive behavior therapy</i>	2.89	16.76	12.09	3.24	1.56
Joboshi ^[23]	<i>Encourage Autonomous Self-Enrichment Program</i>	87.5	93.6	8.21	9.62	0.68
Tang ^[27]	<i>exercise program on psychology dimension & mental health</i>	42.10	54.99	13.14	16.15	0.87
Griva	HED-SMART education	6.46	7.86	2.15	2.20	0.64

The resulting effect size value is based on the Effect size interpretation table shows that the treatments carried out in research studies have a value range of 0.51 - 1.60. It can be concluded that the magnitude of influence on the research studies found was in the moderate to high category. In a research study conducted by Ramezani, the effect size was 1.60, which means that self-care education intervention based on self-efficacy theory has a high effect on self-management in patients with chronic kidney failure with hemodialysis.

DISCUSSION

Self-efficacy

Self-efficacy or belief in the ability to do something, is one of the most important skills in self-management in chronic kidney failure patients. Nine studies used a self-efficacy instrument that included a self-efficacy scale for health behavior in patients with chronic disease and 4 of them included several types of theory.

Eight research studies were found and met the inclusion criteria. Research studies were carried out in various countries, including Iran, USA, Australia and Germany. The year of publication of the articles between 2015-2019. Methodologically, all studies were quantitative with a randomized controlled trial and quasi experiment design. The number of samples for each research study ranged from 40 to 151 respondents so that they could represent the research conducted.

The use of theory as an intervention development was also included in two research studies. The study conducted by Tahereh used self-efficacy theory as the basis for the educational intervention undertaken.^[21] Lee's study used self-efficacy as a theoretical structure for the intervention.^[22]

The instrument used to measure each study result included the CKD Self-efficacy Scale.^[25] *6-Item Scale self-efficacy*,^[26] the Self-efficacy for Exercise (SEE) scale.^[27] However, several research studies have used instruments in the general chronic disease population.^[23,24,28,29] and instruments that adopt from instruments in the population of people with Diabetes mellitus and use previous instruments,^[31] so that it needs updating of instruments that are more feasible and consistent with validity and reliability tests. Based on the instruments used in Indonesia, a research study conducted by Yuni,^[46] PKU Muhammadiyah Yogyakarta uses a self-efficacy scale instrument with 8 items while the instrument used in the USA uses 6 items.

Several research studies have found that there is an effect of self-efficacy training on self-efficacy.^[23,27,28,31,41] Besides that, self-efficacy is one aspect that affects self-management.^[47] In its application, social-psychological interventions based on self-efficacy can be the best solution to improve self-management.^[21,28,41] Considering that these research studies were conducted abroad, the results of these studies could be influenced

by demographic factors such as nationality, age, level of education and cultural culture.

Cognitive behavior therapy

Cognitive-behavioral therapy (CBT) is the most studied psychological treatment in the literature, as it has been shown to be effective in reducing the symptoms and recurrence of psychological illnesses. Since the 1990s, CBT has been suggested as an important option for improving survival patients on hemodialysis.

Eleven research studies were found and met the inclusion criteria. Based on the assessment of the location, the research was carried out in various countries including Iran, Egypt, Australia, and Germany. The year of publication of the articles was between 2015-2019. Methodologically, all research was quantitative with a randomized controlled trial and quasi experimental design.

The number of samples per research study ranged from 40 to 152 respondents. However, several research studies have shown a deficiency in the terms of the number of patients.^[36,38,39] Statistically, the sample in the study should meet the representative requirements. With the fulfillment of representative requirements, it is expected to increase the validity of the sample to the population. This means that the sample can measure what it is supposed to measure, by having two properties, namely a high degree of accuracy and precision.

From 11 research studies, it was found that various instruments were used to measure each study result. Study by Federica Picariello.^[48] and Ahmed Hashem El-Sayed El-Monshed⁴⁹ used the Patient Health Questionnaire-9 (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) instruments to measure depression and anxiety. Hospital Anxiety and Depression Scale (HADS).^[32] The BDI and Beck Anxiety Inventory (BAI).^[34-36] Instrument Center for Epidemiological Studies Depression (CES-D) and Functional Assessment of Chronic Illness Therapy Fatigue (FACIT-F) used in the study Jakubowski.^[38] *The Quick Inventory of Depressive Symptomatology Self Report* (QIDS-SR16) scale.^[39]

Several research studies have found that there is a significant effect of cognitive behavioral therapy in patients with chronic kidney failure. Cognitive behavior therapy intervention with telemedicine technology demonstrates the feasibility and possibility of reducing severe fatigue and fatigue-related functional impairment in patients undergoing HD.^[48] Cognitive behavioral therapy can significantly reduce depression and anxiety scores and improve overall mental health in chronic renal failure patients.^[32,34,39,45,49] In Indonesia, there are many research studies on CBT, but they are not published internationally. Even so, the results can be justified methodologically and medically. In addition to research studies, there are books that argue that the CBT method

from the USA and Europe is too complex for Indonesian culture so a simpler method is offered with 6 sessions focusing on diagnosis, Cognitive Approach, intervention formulation, focus counseling, Behavioral Intervention, Prevention and Self-Help Training.^[50]

Apart from depression and anxiety, hemodialysis patients are also faced with decreased quality of life. Cognitive behavioral therapy that is given regularly can increase self-efficacy and improve quality of life.^[24,35,39] Another effect of cognitive behavioral therapy on improving treatment adherence is by identifying barriers to adherence and designing individualized educational programs based on adherence barriers.^[44]

The duration of Cognitive behavioral therapy intervention varied from 4 weeks to 12 weeks. This is in line with research from Valsaraj that Cognitive behavioral therapy for 10 sessions with 1 session per week shows a significant reduction in anxiety and depression.^[32] Furthermore, Lerma also described a 47% reduction in depression 9 weeks after treatment in the intervention group.^[34]

In Indonesia there are no guidelines for determining how many sessions are ideal for CBT interventions because the determination of the number of sessions is influenced by current problems, respondents, available resources and severity. At the mild severity level was given 6 sessions, the mild - moderate level used 6-12 sessions, moderate to severe 12 - 20 sessions, and the severe level was accompanied by personal problems using > 20 sessions. The number of sessions can change depending on the progress the client has made in treatment, based on the level of severity.

The effectiveness of the CBT intervention was supported by changes in the cognitive and behavioral areas of the three participants. This is in accordance with the basic principles of CBT that cognitive, behavior, emotion and physiology influence each other, so that by changing cognitive and automatic behavior, emotions and physiology also change. Changes that occur in cognition must begin with the awareness that participants have wrong thoughts and behaviors, then have the motivation to change these thoughts and behaviors. After that, get information related to thoughts and behaviors that must be done in a more positive and adaptive manner.

In Indonesia, CBT intervention is often given to patients with psychological disorders such as depression and anxiety, but little is applied to chronic renal failure patients, even though according to Haswita, patients with chronic kidney failure are 1.5 - 3 times more likely to develop depression than other chronic disease patients.^[51] Several research studies regarding interventions in chronic renal failure patients were conducted at Husada Hospital Jakarta,^[52] Dr. Soepraoen Malang Hospital,^[53] and Abdul Wahab Sjahranie Hospital, Samarinda.^[54]

In addition, based on studies that have been reviewed by the mental nursing nurse professional program team at the University of Indonesia in the 9th Mental Nursing Workshop, the Cognitive Therapy module was produced. The module focuses on mental nursing containing individual therapy, group therapy and family therapy. In addition, this module not only contains the implementation strategy of mental nursing therapy but is also equipped with the underlying concepts of nursing therapy and is also equipped with related research resources. In this module, 6 session formulations are formulated for CBT therapy.

CBT interventions offer an alternative to counseling that is not in the form of lectures, but discussions and trains the counselee to make changes in behavior to prove deviant thoughts. This method of discussion is very possible in patients with chronic renal failure with hemodialysis because patients undergoing hemodialysis spend an average of 2-3 times a week for 5-6 hours in the hemodialysis room so that it is easy for nurses to provide this CBT intervention effectively.

Self-management

Self-management in chronic disease referring to the positive efforts of individuals to manage and to be actively involved in their health care to optimize health, prevent complications, control symptoms, and follow treatment regimens (Novak, Costantini, Schneider, & Beanlands, 2013).^[55] In other words, self-management is about activities that are needed in addition to medication to control existing chronic diseases.

A variety of instruments are used to measure self-management in the research studies. One of the problems is that research studies still use previous instruments, one of which is the research study by Lee in his research study, namely the 31-item self-care practice scale which is a modification and an additional version of the 24-item instrument developed by Song (2000), so it needs updating of the instrument. which is more feasible and remains with an alpha croncbah value > than its p value such as the The Hemodialysis Self-Management Instrument (HDSMI) instrument which has been carried out for validity and reliability in the 2018 Agavia Kristi research study with an alpha croncbah validity value of 0.927 > from ap value of 0.60 and on the reliability test the value of r count > r table.

The instrument that is often used in Indonesia to measure the self-management of patients with kidney failure is the same instrument used by research studies abroad, namely the Hemodialysis Patients Self Care Measurement Scale which includes dietary management, stress management, safe food, activity or exercise regulation, maintenance habits. Shunt or vascular access, habits, therapeutic diet and observation of care instructions. In addition, the self-care questionnaire for patients undergoing hemodialysis focused on fluid

regulation was also used in a research study conducted at RSI Sultan Agung Semarang.

Based on the results of the analysis of existing studies, therapy that has a high recommendation level for improving self-management in chronic kidney failure patients is education and training to improve self-efficacy and cognitive behavior therapy. This is evidenced by the effect size, namely the self-efficacy training intervention 0.53, 1.51, 1.60 and Cognitive Behavior Therapy for depression and anxiety and self-management which shows a strong relationship between each intervention and self-management with effect sizes 0.53, 0.60, 0.83, 0.95, 1.04

Providing training to increase self-efficacy or CBT as a therapy to overcome psychological problems so that it can improve self-management in patients with chronic renal failure has been commonly used in many countries. So the combination of CBT and self-efficacy training is possible and can complement each other to balance self-efficacy and decreased anxiety as a mediator and predictor of increased self-care management in chronic kidney failure patients.

CBT intervention focuses on cognitive and affective, while self-efficacy is also a therapy that focuses on cognitive. Cognitive-behavioral therapy assumes that thought patterns and beliefs influence behavior, and that changes to these cognitions can result in the expected behavioral changes. Therefore, the focus of CBT and self-efficacy which will complement each other, it is hoped that the results of the patient have independence in improving self-management in patients with chronic renal failure.

CONCLUSION

Of the 25 journals that have been reviewed, cognitive behavior therapy and self-efficacy can be an effective intervention that can be applied to improve self-management in patients with chronic kidney failure. The research study conducted by Abel Lerma is the most recommended research study among the 25 existing research studies.^[34] This is because the type of research design used a randomized controlled trial, the research sample used reached 152 respondents so that the research study was quite representative. In addition, it is statistically significant as measured by the P value and the effect size is in the high category, namely 0.95.

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