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SPIRITUAL SCORES WITH DEPRESSION LEVEL IN CHRONIC
KIDNEY DISEASE PATIENTS

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Abstract

Chronic kidney disease resulted in an irreversible decrease of the kidney function that requires treatment in the form of kidney transplantation or haemodialysis. Patients with kidney disease who regularly undertake haemodialysis may have an influence on the loss of hope that affects the spiritual aspect. It could make the depression. To find the degree of the correlation between spiritual scores and depression levels in patients with chronic kidney disease undergoing hemodialysis at the Haji Public Hospital of Medan in 2018. Analytic method with cross sectional design was conducted on 30 chronic kidney disease patients undergoing hemodialysis at the RSU. Haji Medan in December 2018. Spiritual measurements were conducted by filling out the FACITSp-12 questionnaire and measurements of depression levels measured by The Beck Depression Inventory (BDI-II). The average spiritual score of 38.87 was obtained with mean score of the Meaning of life 13.07; Peace 11.87 and Faith 13.93. The highest level of depression falls into the mild depression category; 15 people (50%). Based on data analysis of Spearman Rank, the p value was 0.000, r value was <0.05. The alternative hypothesis was accepted. The results of data analysis between spiritual scores and depression levels showed a correlation coefficient (r) was -0.890 with a value of p = 0,000, statistically showing a very strong negative correlation. Spiritual scores and depression levels of the patients with chronic kidney disease who were undergoing hemodialysis showed a significant correlation.

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1. Introduction

Chronic kidney disease (CKD) is a global public health problem with increased prevalence and incidence of kidney failure, poor prognosis and high costs. According to the results of the Global Burden of Disease in 2010, CKD was the 27th leading cause of death in the world in 1990 and increased to 18th in 2010. Meanwhile in Indonesia, the treatment of kidney disease is the second largest ranking of financing from health BPJS after heart disease.

The Indonesian Nephrology Association (PERNEFRI) in 2009 stated that the prevalence of chronic kidney disease (CKD) in Indonesia was around 12.5% or around 18 million adults (PERNEFRI, 2015). Every year there are 200,000 new cases of patients diagnosed with end-stage renal disease (ESRD). Data in North Sumatra show the number of patients undergoing hemodialysis increased from 15,128 new patients in 2013 to 17,193 new patients in 2014 (Simanjuntak, Lamtiar, & Sitepu, 2017).

Based on Indonesian Renal Registry (IRR) data, in 2013 there were 15,128 patients with chronic kidney disease who had recently undergone dialysis, increasing to 17,193 in 2014 and increasing to 21,050 in 2015 (PERNEFRI, 2015). The most diagnosis of hemodialysis patients (89%) is chronic renal failure, which is 18,613 patients.

When a person has CKD, the patient must get therapy such as hemodialysis, or kidney transplant. Hemodialysis is a replacement therapy for renal physiology that aims to remove protein debris and correct water and electrolyte balance disorders between the patient's blood compartment and the compartment of the dialysate solution through a semipermeable membrane that acts as an artificial kidney.

Hemodialysis therapy must be followed by kidney failure patients throughout their lives. Except for doing a kidney transplant. Patients must undergo regular treatment every Sunday. Treatment is carried out for 12-15 hours divided into three sessions. This condition generally causes deep psychological disorders. In the six months to the first year of therapy, patients feel discomfort and freedom. Rejection of the condition experienced usually results in conflict within the patient. This inner conflict will eventually result in frustration, guilt, depression, and so on. There are several psychological disorders that arise from patients with kidney failure, namely, delirium; depression and dialysis dementia.

Dialysis activities that are routinely carried out by patients with kidney disease can have an impact on the loss of hope that triggers depressive episodes. Depression in CKD patients undergoing dialysis is caused by significant and prolonged changes in the social environment, psychological conditions and decreased physical abilities of patients. Depression often occurs, but is not diagnosed in patients with chronic kidney disease (Simanjuntak, Lamtiar, & Sitepu, 2017).

2. Problem Statement

Depression is a common mental disorder, characterized by constant sadness and loss of interest in activities that are usually enjoyed, accompanied by an inability to carry out daily activities, at least for two weeks. In addition, people with depression usually experience the following things: loss of energy; taste change; sleep more or less; anxiety; lack of concentration; doubt; anxiety; feelings of worthlessness, guilt, or despair; and thoughts of self-harm or suicide (World Health Organization, 2017).

The most frequent depression in dialysis patients is anhedonia, feeling sad, useless, feeling guilty, hopeless, sleep disturbances, followed by decreased appetite, and decreased libido (Bombay, 2015). Patients with chronic kidney disease undergoing hemodial therapy certainly have different spiritual levels. Spiritual is something that is related to spirit, enthusiasm to get beliefs, hopes and meanings of life. Spirituality is a tendency to make meaning of life through intrapersonal, interpersonal and transpersonal relationships in overcoming various life problems.

Spiritual well-being is an abstract concept that has been defined in various ways. Spiritual well-being has existential and religious dimensions. Existential leads to horizontal dimensions, namely the meaning and purpose of life while religion leads to a vertical dimension that leads to a relationship with God or a greater power. Spirituality has a relationship with health status.

Based on the literature review, in patients with other chronic diseases such as cancer and chronic heart disease (CHD) it appears that spiritual scores have a significant relationship with depression.

Based on the background of the high incidence of depression in patients with chronic kidney disease who undergo hemodial and the magnitude of spiritual influence in a person's life. The researcher was interested in conducting a study of the relationship between spiritual scores and the level of depression in patients with chronic kidney disease undergoing hemodial at RSU.

3. Research Questions

Does spiritual scores and depression levels in patients with chronic kidney disease undergoing hemodial at the RSU?

4. Purpose of the Study

To determine the relationship between spiritual scores and depression levels in patients with chronic kidney disease undergoing hemodial at the RSU.

5. Research Methods

The type of research that will be conducted is Cross Sectional analytic research. The time of the study was conducted in December 2018. The place of the study was conducted at the Medan Haji General Hospital in North Sumatra.

The criteria for exclusion includes CKD patients who have hemodial for at least 3 months, Ages 18-60 years old, Able to communicate well, write and read (cooperatively), do not suffer from severe illness that interferes with communication skills, willing to be a respondent, Patients who have a history of disorders, and patients with impaired consciousness.

The sample size was 30 respondents. The sample in this study was taken by consecutive sampling technique.

5.1. Questionnaire: Spiritual Score

The spiritual score instrument for chronic disease patients uses a standardized questionnaire, Spiritual Well-Being and the FACIT-Sp (FACIT-Sp 12). To include the characteristics of respondents, a

questionnaire was included covering age, sex, education, occupation. The questionnaire consisted of 12 questions consisting of 3 types of questions namely Meaning (Meaning of Life), Faith (Trust), and Peace (Peaceful). Each item consists of answers Never, Rarely, Quite Often, Very Often, Always. For the assessment of the answer question Never the value 0, Rarely the value is 1, Quite often the value is 2, Very often the value is 3, Always the value is 4 (see Table 01).

Table 01. The spiritual score instrument for chronic disease patients

No	Column Heading	Column Heading
1	Meaning (Meaning and life)	Sp 2, Sp 3, Sp 5 and Sp 8
2	Faith (Trust)	Sp 1, Sp 4, Sp 6 and Sp 7
3	Peace (Peaceful)	Sp 9, Sp 10, Sp 11 and Sp 12

5.2. Questionnaire 11: Depression

Depression instruments used a standardized questionnaire, The Beck Depression Inventory (BDI-II). BDI-II is a very popular measurement tool for drawing a person's depression. Measurements were made to be used on 13-year-old individuals above tested items on BDI and BDI-II gauges of 500 respondents with clinical problems, then compared the characteristics of these items. The results of the study showed an increase in the sensitivity of the new measuring devices (BDI-II) with BDI-II reliability (alpha coefficient = 0.92) higher than BDI (alpha coefficient = 0.86). Because BDI-II is a validated measuring instrument, the researchers chose to use it in this study.

This measure consists of 21 item statements that will identify the severity of depression. The modification items include: feelings of sadness, pessimism, feelings of failure, loss of pleasure, feelings of guilt, feelings of punishment, self-loathing, self-criticism, suicidal thoughts, crying, anxiety, loss of interest, difficulty making decisions, feelings of not valuable, energy loss, changes in sleep patterns, sensitivity (anger), changes in diet, difficulty concentrating, fatigue and loss of interest in gender.

This questionnaire uses the Liker scale, namely:

Value 0 = no symptoms (never)

1 = light symptoms (sometimes)

2 = moderate symptoms (quite often)

3 = serious symptoms (almost always / always)

According to the American Psychiatry Association from 21 participants the questions could be concluded:

1. Scores 0-9 = not depressed

2. Scores of 10-16 = light depression

3. Score 17-29 = moderate depression

4. Score 30-63 = serious depression

Table 02. Operational definition

Variable	Operational definition	Measurement	Instrument unit	Scale
1. Depression	General mental disorders, marked by continued pain and loss of interest in activities that are normally enjoyed, are accompanied by the inability to carry out daily activities, at least a week	<i>The Beck Depression Inventory (BDI-II) Questionnaire</i>	Ordinal	1. Score 0-9 = not depressed 2. Score 10-16 = light depression 3. Score 17-29 = moderate depression 4. Score 30-63 = serious depression
2. Spiritual	Something related to spirit, enthusiasm to get the beliefs, hopes and meanings of life	<i>Spiritual Well-Being and the FACIT-Sp (FACIT-Sp 12) Questionnaire</i>	Numeric	Score

Data analysis was carried out by univariate data analysis and followed by bivariate data analysis (see Table 02).

5.3. Univariate Analysis

Data analysis was performed to determine the frequency distribution and the percentage of each variable to be examined. Univariate analysis was carried out on research variables, namely knowing the characteristics of respondents, spiritual scores and depression in respondents.

5.4. Bivariate Analysis

Data analysis was performed by statistical tests using the Spearman Rank hypothesis test, to see the relationship between independent variables that have numerical data and dependent variables that have ordinal data types.

6. Findings

6.1. Location of study

The place of research is the Medan Haji General Hospital located on the road of Medan Haji Hospital, Medan Estate Sub-district, Kenangan Baru, Percut Sei Tuan, Deli Serdang Regency, North Sumatra. Operationally the Medan Haji Hospital was opened on June 15, 1992 for the Clinical Clinic activities. On June 1 in full the Medan Hajj Hospital has Type B (VIP) with a capacity of 139 beds.

Medan Haji General Hospital has received a certificate and Minister of RI No. YM.00.03.22.835 which states that the Medan Haji General Hospital has received full-level accreditation status covering emergency services, medical records, nursing services and management administration services.

6.2. Univariate analysis

Univariate analysis were used to analyze data that had been collected descriptively in the form of a frequency distribution table. These characteristics are seen in table 03:

Table 03. Respondents characteristics based on gender

Gender	Frequency	Percentage (%)
Male	17	56.7
Female	13	43.3
Total	30	100

Table 3 above shows that the majority of research respondents are male (56.7%) more than women (43.3%).

Table 04. Respondents characteristics based on education level

Education levels	Frequency	Percentage (%)
Primary School	11	36.7
Junior High School	3	10
High School	11	36.7
Undergraduate	5	16.6
Total	30	100

Table 4 above shows that respondents with the most education level are primary school and high school are 11 people (36.7%) and the least are junior high school is 3 people (10%).

Table 05. Respondents characteristics based on haemodialysis period

Length time for Haemodialysis	Frequency	Percentage (%)
3-6 months	5	16.7
6 months and above	25	83.3
Total	30	100

Table 5 above shows that more respondents undergo hemodialysis > 6 Months, which is 25 people (83.3%).

Table 06. Respondents characteristics based on spiritual core

Spiritual core	Frequency	Mean	Max	Min
Spiritual subscale score				
Meaning (Meaning of life)	30 (100%)	13.07	16	10
Peace (Peaceful)	30 (100%)	11.87	15	8
Faith (Trust)	30 (100%)	13.93	16	7

Table 6 above shows that respondents have a spiritual score with a mean = 38.87; max = 46; min = 25. With the highest subscale score is Faith (Trust) with an average of 13.93; max = 16; min = 7 and the lowest is Peace with an average of 11.87; max = 15; and min = 8.

Table 07. Spiritual score characteristics on haemodialysis

Characteristics	Frequency
Gender	
Male	39.71
Female	37.76
Education levels	
Primary school	36.91
Junior high school	36.33
High school	40.82
Undergraduate	40.4
Length time for haemodialysis	
3-6 months	36.2
6 months and above	39.4

Table 7 above shows that respondents are characterized by gender, education and duration of undergoing hemodial. Where the highest average spiritual score is male = 39.71; high school education = 40.82 and long time undergoing hemodial > 6 months = 39.4.

Table 08. Respondents characteristics based on depression levels

Depression levels	Frequency	Percentage (%)
Not depressed	5	16.7
Light depressed	8	26.7
Moderate depression	15	50
Serious depression	2	6.7
Total	30	100

Table 8 below shows that most respondents experienced moderate depression rates of 15 people (50%) and at least 2 experienced serious depression (6.7%).

6.3. Bivariate analysis

Bivariate analysis was conducted to identify the relationship between spiritual scores and the level of depression in respondents with chronic kidney disease who underwent hemodial at RSU.

Table 8 above shows that most respondents experience moderate depression as many as 15 people (50%) have a spiritual score with an average of 36.53; min = 32; max = 40 and respondents had at least 2 major depression (6.7%), had a spiritual score with a mean = 26.5; min = 25; and max = 28.

By using the spearman rank test p value 0,000 (<0.05), this means that there is a significant relationship between spiritual scores and the level of depression.

Table 09. Respondents characteristics based on spiritual core

Variable	Frequency	Spiritual score			p-value
		Mean	Min	Max	
Not depressed	5 (16.,7%)				0.000
Light depressed	8 (26.7%)				
Moderate depression	15 (50%)				
Serious depression	2 (6.7%)				

6.4 Univariate data analysis based on gender, education level, Length of Hemodial, Spiritual Score and Depression Level

Table 3 shows that of the 30 respondents there were 17 female sexes (56.7%) and 13 men (43.3%). These results tend to be the same as the research of Hanida, Mudjaddid, Nasution, and Shatri (2016) 10 which states that the most respondents were male sex as many as 28 people (54.9%) and women 23 (45.1%). This result is different from Widyastuti, Butar-Butar, and Babasari's (2014) 11 study that found more female subjects than men, namely women 30 people (52%) and men 28 people (48%).

Table 4 shows that the respondents with the highest level of education are elementary and high school, each of which 11 people (36.7%), then Higher Education 5 people (16.6%), and SMP 3 people (10%). These results are in line with the research of Hanida et al. (2016) 10 which states that respondents with the highest level of education are high school 30 people (58.8%), then Higher Education 14 people (27.5%), SD 5 people (9.8%) and SMP 2 people (3.9%). The results of this study are different from the Sagala (2015) study 12 which states that respondents with the highest level of education are Universities 16 people (50%), SMA 10 people (31.3), SMP 4 people (12.5%), and SD 2 people (6.3%). This can be different because there were still many people who were unable to go to school and limited family conditions.

Table 5 shows that respondents who underwent 3-6 months hemodial were 5 people (16.7%) and > 6 months as many as 15 people (83.3%). This result is in line with Rahman, Kaunang, and Elim (2016) 13 study which stated that respondents who had undergone hemodial > 6 Months were 22 people (64.7%) more than the respondents who had undergone hemodial ≤ 6 months as many as 12 people (35.3%). These results are also in line with the research of Tokala, Kandou, and Dundu (2015) 14 which stated that respondents who had undergone hemodial > 6 Months were 19 people (55.9%) more than respondents who had undergone hemodial ≤ 6 months as many as 15 people (44.1 %).

Table 6 shows that respondents have a Spiritual Score with a mean = 38.87; max = 46; and min = 25. The Faith (Trust) subscale score of 13.93 is higher than the Meaning (Meaning of Life) 13.07 and the Peace subscale (Peace) 11.87. This result is also in line with the research of Hanida et al. (2016) 10 which states that the spiritual score of chronic hemodial patients with a score of the faith subscale is higher than the subscale of meaning (peace).

Table 7 shows that respondents characterized by sex, education and length of time undergoing hemodial, each of them has a mean Spiritual Score: Gender (male = 39.71 higher than female = 37.76). This result is in line with the research of Hanida et al. (2016) which states that male spiritual subjects are higher than women with mean values of 31.71 and 30.43. Based on the average education the highest spiritual score is SMA = 40.82; then College = 40.4; SD = 36.91 and SMP = 36.33. The results of this study

are in line with Hanida et al. (2016) research which states that the highest respondent's spiritual score is SMA = 32.14; then SD = 30.40; Colleges = 30.38 and SMP = 38.0.

Table 7 shows that most respondents experienced moderate depression as many as 15 people (50%), followed by mild depression as many as 8 people (26.7%), no depression as many as 5 people (16.7%) and severe depression as many as 2 people (6.7%). This result is in line with Pratiwi's research (2014) which states that most respondents experienced moderate depression as many as 15 people (50%), followed by mild depression rates of 10 people (33.3%), major depression as many as 3 people (10%) and no depression as much as 2 people (6.7%).

6.5 Bivariate data analysis regarding the relationship of spiritual scores with depression levels

Table 8 data is obtained about spiritual scores and the level of depression taken in patients with chronic kidney disease who undergo hemodial at RSU. Chronic kidney disease patients who underwent depressed hemodial were 5 people (16.7%), had a spiritual score with a mean of 5.20. Patients with chronic kidney disease who underwent hemodial who experienced mild depression were 8 people (26.7%), had a spiritual score with a mean = 45.38. Patients with chronic kidney disease who undergo hemodial who experience moderate depression are 15 people (50%), have a spiritual score with a mean of 36.53. Patients with chronic kidney disease who undergo hemodial who experience severe depression as many as 2 people (6.7%), have a spiritual score with a mean = 26.5. Based on the results of the data obtained, a Spearman rank test was conducted with a p value of 0,000. From the results of this test, found the value of p value <0.05, so H0 is rejected and H1 is accepted. This shows a significant result in the relationship between spiritual scores and depression levels in patients with chronic kidney disease undergoing hemodial at the RSU.

From this research, the most results were patients with chronic kidney disease who had moderate depression as many as 15 people (50%). Depression in patients with chronic kidney disease is a complex condition, where the aetiology that is known is still lacking. However, many factors influence the occurrence of depression such as increased mortality and decreased quality of life for hemodial patients. Based on this study, one of the things related to depression is spiritual. The higher the spiritual score, the lower the level of depression of patients with chronic kidney disease undergoing hemodial.

This is in line with the research of Mirwanti and Nuraeni (2016) with a sample of 100 respondents who showed the results of higher spiritual well-being, the lower the rate of depression of coronary heart disease patients (p value = <0.01).

This is also in line with the research conducted by Naediwati, Husairi, and Muttaqien (2013) with a sample of 52 elderly respondents at PSTW Budi Sejahtera, South Kalimantan Province who showed that the higher the level of spiritual well-being of elderly Muslims, the lower their depression rate. Conversely, the lower the spiritual well-being of the elderly Muslim, the higher the level of depression (p value = 0.005)

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According to Yusuf, Nihayati, Iswari, and Okviasanti (2017), spiritual sufferers of chronic diseases will generally increase with the severity of symptoms. One form of spiritual intervention to overcome depression is remembrance. Zikir has been widely studied to reduce stress and depression in various populations, including the elderly; clients of kidney failure; HIV sufferers; and leprosy clients.

Nurses can use remembrance as a stimulus to overcome depression in clients with chronic kidney disease who undergo hemodialysis. Recitation which is done either by oral, heart, or charity can influence the formation of positive cognition (perception) responses in the brain. A good stress perception will stimulate the hypothalamus to release a series of hormones that cause modulation of the physiological barrier immune response in the form of a decrease in activation of the HPA axis resulting in a decrease in cortisol, causing a decrease in visceral adiposity, blood pressure, insulin resistance, and IGF-1 availability. Whereas parasympathetic nerve activation will increase acetylcholine, dopamine, nitric oxide (NO), and endorphins, causing an increase in variability heart rate and baroreceptor sensitivity and a decrease in inflammatory cytokines, heart rate and blood pressure. Modulation of the immune response results in a decrease in disease response, in the form of a decrease in tightness, oedema, and fatigue. In addition, the client's spirituality increases, the soul becomes calm and peaceful so it fosters adaptive behavior in the form of decreasing the level of depression.

In this study it was also found that the longer patients experience chronic kidney disease and undergo hemodialysis, the higher the spiritual score and the lower the depression rate. There are 5 stages or processes in grieving that are behavior-oriented, namely denial (denial), anger (anger), bargaining (bargaining), depression (depression), and acceptance (acceptance). At the stage of denial, the individual acts as if nothing has happened and can refuse to believe that there has been loss and grief. After being in the second stage, the individual acknowledges that the refusal cannot continue. In the third stage involves the hope that how individuals can delay something. At this stage individuals negotiate for a longer life by considering the information they get. Stage of depression (depression) During this fourth stage, individuals begin to understand certainty, because it is this individual who may become more silent, reject others and spend a lot of time crying and grieving. The last phase is acceptance that is marked by individuals starting to come with peace and love. Individuals begin to accept the facts that occur in their lives.

7. Conclusion

Based on the results of research on the relationship of spiritual scores with depression levels in patients with chronic kidney disease undergoing hemodialysis at the RSU. The 2018 Medan Hajj concludes:

1. Characteristics of the respondents based on male sex (56.7%); women (43.3%), elementary education level (36.7%); Middle School (10%); SMA (36.7%); Higher Education (16.6%) and long duration of 3-6 months remodeling (16.7%); > 6 Months (83.3%).
2. Respondents have spiritual discretion with mean = 38.87. With the highest spiritual level is male sex = 39.71; high school education = 40.82 and long duration of hemodialysis > 6 months = 39.4.
3. Half (50%) of the respondents experienced the level of the presidency.
4. There is a significant relationship ($p < 0,000$ and $r = -0,89$) between spiritual factors with the level of depression in patients with chronic arthritis who undergo hemodialysis at the RSU.

Based on the results of the research and discussion, the researcher gave the following suggestions:

1. For health workers it is recommended that attention be paid to the health of patients in order not to exacerbate their physical condition by considering spiritual aspects. As well as suggesting patients who experience depression for consultation with psychiatric or psychosomatic consultants.

2. For Hemodial Patients especially those who experience depression, they will want to stay healthy and have a good mentality to improve spirituality as thought, read and listen to the Koran.

3. Other researchers are advised to complete the results of further research to carry out further research by analyzing factors that can influence and reduce the level of depression in a person.

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