

# The Relationship Between Nutritional Knowledge and Support Family with Dietary Compliance in Chronic Renal Failure Patients at Suyudi General Hospital in Indonesia : Research

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## ABSTRACT

**Introduction:** Dietary compliance is the level of willingness of patients to carry out a diet following the dietary arrangements recommended by nutritionists in accordance with established rules. The purpose of this study was to determine the correlation between knowledge of nutrition and family support with dietary adherence to hemodialysis patients in Suyudi General Hospital, Lamongan. **Methods:** The method of this research was observational analytic with Cross Sectional approach. The sample of 54 hemodialysis patients were taken using purposive sampling. The data on nutrition knowledge and family support were obtained through interviews. The analysis of data used Rank Spearman. **Result:** The result showed that the correlation between nutritional knowledge with dietary compliance obtained  $p = 0,479$ , the correlation family support with dietary compliance obtained  $p$  value  $0,175$ . **Conclusion:** there is no correlation between knowledge of nutrition and family support with dietary compliance to hemodialysis patients in Suyudi General Hospital.

**Keywords:** nutritional knowledge; dietary compliance; support family; chronic renal failure; suyudi general hospital

## INTRODUCTION

Chronic renal failure still becomes a global concern in which at least 500 million people get this disease and even it causes 850 thousand deaths per year [2]. East Java Province ranks 18th in the list of diseases causing death in the world with the incidence of chronic renal failure of 1.9% [10]. In Indonesia, death caused by chronic renal failure reached 1,243 people in 2015 [9]. Based on medical record data at the Regional General Hospital of Suyudi, the monthly average hemodialysis visits was 54 patients in 2021.

Management of chronic kidney failure covers dietary adjustments, supplements, vitamin intake, restriction of fluid intake, drugs, and kidney replacement therapy such as kidney transplants and hemodialysis [3]. Hemodialysis which is carried out for a long time often reduces the patient's enthusiasm for life which can affect their dietary compliance [13]. Many factors affect dietary compliance of hemodialysis patients such as the level of knowledge and support provided by the family [4].

The level of patient knowledge is related to dietary compliance [12]. Dietary compliance can be increased by providing counseling and education on nutrition to motivate patients to change and comply with the dietary recommendations [17]. In this case, if the patients have good knowledge, they can determine how to think and avoid getting sick or minimize the worsening condition of the disease [16].

Family support is important for the success of therapy in order to maintain family health status [19]. The success of the hemodialysis diet is affected by dietary compliance. The patient and family are responsible for managing food at home [6]. Therefore, the patient and family have to know and understand food arrangements for the patient. A study reveals that if cooperation between family members has been established, compliance with medical programs, such as dietary programs, will be higher [7]. Patients with good family support and dietary compliance usually have good family support. Family support is important in determining health beliefs and values as well as the treatment program received [15]. Besides, family support including attention, love, and appreciation for patients greatly influences the healing process and can be a great support for dietary compliance [15].

Based on the description above, this study aims to identify the relationship between nutritional knowledge and family support with dietary compliance in chronic renal failure patients at the Regional General Hospital of Suyudi.

## METHODS

This study used an observational analytic study design with a cross-sectional approach. It was conducted at the General Hospital of Suyudi, Paciran District, Lamongan Regency, Indonesia in January 2023.

The subjects were hemodialysis patients selected using a purposive sampling technique. The variables measured covered knowledge of nutrition, family support, and dietary compliance which was taken once at a time. Data were collected through interviews and documentation. The normality test was carried out with Shapiro-Wilk and then data that are normally distributed were tested by the Rank Spearman test.

**RESULT**

**1. Characteristics of Samples**

**a. Gender**

The distribution of samples by gender is presented in Table 1 below:

**TABLE 1:** Sample Distribution by Gender.

Gender	n	%
Male	28	52
Female	26	48
Total	54	100

Source: Processed primary data, 2023.

**b. Education Level**

The distribution of samples by education level is presented in Table 2 below:

**TABLE 2:** Distribution of Samples by Education Level.

Education level	n	%
Elementary school and equal	24	44
Junior High School and equal	10	19
Senior High School and equal	14	26
University	6	11
Total	54	100

Source: Processed primary data, 2023.

**c. Occupation**

The distribution of samples by occupation is presented in Table 3 below:

**TABLE 3:** Distribution of Samples by Occupation.

Occupation	n	%
Housewife	12	22
Farmer	12	22
Merchant	2	3.7
Student	2	3.7
Private employee	6	11
Entrepreneur	16	30
Teacher	4	7.5
Total	54	100

Source: Processed primary data, 2023.

**d. Nutritional Knowledge**

The distribution of samples by nutritional knowledge is presented in Table 4 below:

**TABLE 4:** Distribution of Samples by Nutritional Knowledge.

Nutritional Knowledge	N	%	X±SD
Good	24	44	10.72±2.57
Moderate	19	36	
Low	11	20	
Total	54	100	

Source: Processed primary data, 2023.

**e. Family Support**

The distribution of samples by family support is presented in Table 5 below:

**TABLE 5:** Distribution of Samples by Family Support.

Family Support	n	%	X±SD
Good	28	52	41.48±3.28
Poor	26	48	
Total	54	100	

Source: Processed primary data, 2023.

**f. Dietary Compliance**

The distribution of samples by dietary compliance is presented in Table 6 below:

**TABLE 6:** Distribution of Samples by Dietary Compliance.

Dietary compliance	n	%	X±SD
Comply	4	8	8.72±2.28
Not comply	50	92	
Total	54	100	

Source: Processed primary data, 2023.

**2. The Relationship between Nutritional Knowledge and Dietary Compliance in Chronic renal failure Patients at Regional General Hospital of Suyudi**

The relationship between nutritional knowledge and dietary compliance is presented in Table 7 below:

**TABLE 7:** Relationship between Nutritional Knowledge and Dietary Compliance.

Variable	X±SD	r <sub>s</sub>	p*
Nutritional Knowledge	10.72±2.57	-0.148	0.479
Dietary compliance	8.72±2.28		

\* Rank Spearman

Based on Table 7, the analysis of the relationship between nutritional knowledge and dietary compliance obtained a p-value of 0.342. This means that there is no relationship between nutritional knowledge and dietary compliance in patients with chronic renal failure at the Regional General Hospital of Suyudi.

**3. The Relationship between Family Support and Dietary Compliance in Patients with Chronic renal failure at Regional General Hospital of Suyudi**

The relationship between family support and dietary compliance is presented in Table 8 below:

**TABLE 8:** The Relationship Between Family Support and Dietary Compliance.

Variable	X±SD	r <sub>s</sub>	p*
Family Support	41.48±3.28	-0.280	0.175
Dietary Compliance	8.72±2.28		

\* Rank Spearman

Based on Table 8, the analysis of the relationship between Family Support and dietary compliance obtained a p-value of 0.175. This means that there is no relationship between nutritional knowledge and dietary compliance in patients with chronic renal failure at the Regional General Hospital of Suyudi.

## DISCUSSION

### 1. Characteristics of Samples

#### a. Gender

The sample in this study is dominated by male patients, namely 28 people (52%) (Table 1). This can be due to differences in occupation, lifestyle, genetics, or physiological conditions. Gender is related to different life roles and behaviors between males and females. Women usually take care more of their health compared to men who have irregular eating patterns and like to consume alcoholic beverages. Besides, men have higher creatinine levels than women [2].

#### b. Education Level

Concerning the level of education, most of the samples have an elementary school education level (44%) (Table 2). The level of education can influence a person's perception of being more receptive to ideas and technology. Education plays an important role in determining the quality of human life. Humans gain knowledge and its implications through education. The higher the education, the higher the quality of human life as higher education will produce good knowledge and higher quality of life [16].

Patients with chronic renal failure who have a higher education level have extensive knowledge. Knowledge enable patients to control themselves in overcoming their problems, have high self-confidence and the right estimates to overcome incidents, and easily understand health workers' recommendation [1] [17].

#### c. Occupation

In this study, the sample is dominated by entrepreneurs (30%) (Table 3). Someone who has a job will obtain information regarding the knowledge of chronic renal failure and its taboos from various sources. It is because people in the work environment are a source of information that can add to one's knowledge besides electronic media [3].

#### d. Nutritional Knowledge

The factor affecting good nutrition knowledge (Table 4) is active working (44%). Even though the sample is dominated by elementary school graduates, patient knowledge is not only obtained from education but also experience. People who have good knowledge will easily apply their knowledge to positive behavior. Good knowledge allows people to control themselves in dealing with their problems, have high self-confidence and right estimate, and understand health workers' recommendations to reduce anxiety in order to help the individual in making decisions [3] [17].

#### e. Family Support

Based on the results of this study, 28 out of 54 samples obtained good family support (52%). The family functions as a support system for its members. Family support is a form of attention and encouragement that individuals obtain from other people through interpersonal relationships which include attention, emotion, and judgment [15].

#### f. Dietary Compliance

Based on the results of this study, 4 people (8%) out of 54 samples comply with the diet, while the other 50 people (92%) do not comply with the diet. The level of compliance is the attitude shown by patients with Chronic renal failure to comply with the diet that must be followed (18). Patient compliance means that patients and their families need to take the time to carry out the required treatment, including diet [17].

### 2. The Relationship between Nutritional Knowledge and Dietary Compliance in Patients with Chronic renal failure at Regional General Hospital of Suyudi

The results showed that there was no relationship between nutritional knowledge and dietary compliance in chronic kidney failure patients at dr. Suyudi Lamongan Regency with  $p = 0.479$ . The average nutritional knowledge of  $10.72 \pm 2.57$  is included in the category of good nutritional knowledge and the average dietary compliance is  $8.72 \pm 2.28$  in the non-adherent category of diet, samples with good nutritional knowledge and moderate nutritional knowledge, also many non-compliance in undergoing chronic kidney failure diet. These data illustrate that better knowledge of the sample is not followed by higher compliance with the chronic kidney failure diet. Even though the sample has a fairly good knowledge of the chronic renal failure diet strictly. This is also mediated because economic conditions affect dietary compliance, the higher a person's economic condition, the easier it is for the person to disobey the diet compared to a low economic situation [5].

### 3. The Relationship between Family Support and Dietary Compliance in Patients with Chronic renal failure at Regional General Hospital of Suyudi

The results showed that there was no relationship between family support with dietary compliance in patients with chronic renal failure at the Regional General Hospital of Dr. Suyudi, Lamongan with a p-value of 0.175. The average family support score is  $41.48 \pm 3.28$  including good family support and the average diet compliance score is  $8.72 \pm 2.28$  including not complying with the diet. Many samples with good family support do not comply with the recommended diet. This indicates that better family support is not followed by higher compliance with the recommended diet due patient's eating habits. Patients do not follow the recommended diet as they feel bored of food that less varied. Thus, the dietary compliance information obtained is not applied in their daily life.

## CONCLUSION

Based on the results of the study involving patients undergoing hemodialysis at the Regional General Hospital of Suyudi, patients have nutritional knowledge, family support, and dietary compliance with the good category. There is no relationship between nutritional knowledge and dietary compliance in patients with chronic kidney failure and no relationship between family support and dietary compliance in patients with chronic renal failure at the Regional General Hospital of Suyudi, Lamongan.

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