

# The Relationship between Social Support with Dietary and Fluids Restrictions Adherence among Hemodialysis Patients In Indonesia

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**ABSTRACT:** Patients adherence on dietary and fluids restriction can prevent to uremia, a build-up of toxic fluids and metabolic end product in the blood stream which may increasing complication, morbidity and death among dialysis patients. Reported more than 50% of patients undergoing hemodialysis are not adherent to dietary and fluids restrictions. Many study shows that social support plays important role in management of patients and will improve patient adherence to dietary and fluids restrictions. The aim of the study is to investigate relationship between the social support with dietary and fluids restriction adherence among hemodialysis patients. The descriptive cross-sectional study design was used. A random sampling method was used to select the sample. In this study upon 72 hemodialysis patients, the data was collected by questionnaire and the instruments were developed to measure social support (MSPSS), adherence to dietary and fluids restriction (ESRD-AQ). Data was analyzed using statistical by SPSS ver.11.5. The Result of this study shown about 55,6% patients with low social support, 69,4% patients non-adherence to dietary and 75% patients non-adherence to fluids restriction. There was a significant relationship between social support with patients adherence to dietary and fluids restriction ( $p < 0.05$ ). This study those patients who more supported by their family had more adherences of diet and fluids restrictions. Nurses have the main role to empowering the families, providing many methods to encourage the families for support undergoing hemodialysis patients.

## 1 INTRODUCTION

Chronic kidney disease (CKD) is a condition in which the kidneys are damaged or cannot filter blood as well as healthy kidneys. Because of this, excess fluid and waste from the blood remain in the body and may cause other health problems (National Chronic Kidney Disease Fact Sheet, 2017) CKD is a slow progressive irreversible deterioration in renal function and the prevalence is estimated on 2025 become 247.000 cases. CKD as a major health problem is considered endemic across cultures globally (Rastogi, et al, 2008). Patients undergoing hemodialysis have many problems resulting from a disease and hemodialysis treatment, which change in their quality of life, depression by the treatment program and sometimes can lead to suicide and early death (Karimi, et al, 2012).

Management of chronic renal failure has an impact on lifestyle changes in patients and families (Barnet T et al (2008). The successful treatment program is determined by the patient's adherence to dietary and fluid restrictions. patient noncompliance will lead to accumulated residual metabolism, excess fluid that will increase morbidity and mortality in patients with renal failure (Lee SH, et al, 2008). poor adherence to diet and fluid restriction is a major health problem in patients, as hemodialysis therapy is less useful, aggravates symptoms, decreases patient quality of life, increases maintenance costs (Hansen et al, 2007). Patient compliance with diet and fluid restriction is a key factor in successful treatment of renal failure. Following recommended treatments (diet and fluid restriction) by the patient is one of the most important issues

in the health care programs (Karimi, et al, 2012). Therefore nurses are expected to be able to identify conditions and factors related to patient adherence.

The adherences to dietary and fluid restrictions as well as medical treatment are important parts of complex and difficult treatment process in these patients (Kugler, et al, 2005). Compared with chronic illnesses like cancer or cardiovascular disease, there is a paucity of research addressing the association between social support and mortality rates and adherences to dietary and fluid restrictions in dialysis patients. (Kara, et al, 2007). The results of the some studies show that the social support is one of the factors, which may improve patient's quality of life. (Zamzadeh, et.al, 2007). Kara et al., (2007) have confirmed the relation between social support and adherence to recommended dietary treatment. Understanding how having social support at the start of dialysis treatment is associated with survival and well-being may have important clinical benefits for this patient population as it can inform clinical practice for the promotion or improvement of patients' support networks. Considering the important of this broad subject, we conducted a study about the relationship between social support with dietary and fluids restrictions among hemodialysis patient in West Sumatera Indonesia.

## 2 METHOD

### 2.1 *Study Design*

This is a descriptive analytic study with a correlational study approach.

### 2.2 *Sample and Sampling Technique*

Samples of this study consist of patients attending public hospital for a weekly routine hemodialysis session. Patients who were at least 18 years old, have the ability to communicate verbally, and possess the capability for attending the renal unit were eligible to participate in the study. The patients had to receive health education from a doctor, nurse, and nutritionist. Patients must be aware of their treatment regimen. The excluding criteria were critically ill patients and patients with cognitive impairment and mental disorders. A sample size was 72 patients was drawn by using simple random sampling method.

### 2.3 *Ethical Considerations*

The ethical approval for this study was obtained from the Research Ethics Committees of Faculty of medicine Andalas University. The respondent were informed about the aim and method of the study, also they were told their participation was voluntary, and they had the right to withdraw at any point. Participants were informed regarding anonymity and confidentiality of the data. Signed consent forms were obtained from those who agreed to participate in this study.

### 2.4 *Data Collection and analysis*

Multidimensional Scale of Perceived Social Support / MSPSS (Zimet) and the End-Stage Renal Disease Adherence Questionnaire / ESRD-AQ (Kim 2010). The severity of non-adherence is scored in a 5-point Likert scale from 0 (no) to 5 (very severe). MSPSS questionnaire consists of 12 questions assessing perceived social support for individuals from family, friends, and significant others. The original questionnaire designed by Zimet et al. is a 12-item scale and each item is scored based on 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The score for each subscale ranges from 4 to 28. Thus, the total score of the questionnaire is 84. Higher scores indicate higher levels of perceived social support.

In the univariate analysis, chi square test was used to evaluate the association between non-adherence to fluid and dietary factors as well as other continuous variables. The chi-square test was also applied to assess the relationship between social support and dietary and fluids restriction adherence. All statistical analyses were performed using computerized. A two-tailed  $p < 0.05$  was considered to be statistically significant.

### 3. RESULT

#### 3.1 Description of Respondent Characteristics

Table 1. Demographic characteristic of hemodialysis patients .

Characteristic	Frequency (n)	Percentage (%)
Age (years)		
26-39	4	6
>39-45	24	33
>46-55	28	39
>55	16	22
Gender		
Male	41	57
Female	31	3
Hemodialysis		
> 1 years	51	71
< 1 years	21	29
Received Health education		
< 3 month	22	31
> 3 mont	50	69

Tables.1 reveals the distribution of demographic variables for patients. The age of participants was from a minimum of 26 years to a maximum of 68 years with an age range 40. The sample comprised of more male (41 (57%)) than females. The majority,(51 (71%)) patients undergoing hemodialysis for more than 1 years. Fifty (69%) patients engagement with health education on dietary and fluids restriction more than 3 month ago.

#### 3.2 Description of patient social support, dietary and Fluids restriction

Table 2. Patient Social Support, dietary and fluids restriction adherence

Variables	Frequency (n)	Percentage (%)
Social Support		
- High	32	44
- Low	40	56
Dietary adherence		
- Adherence	22	31
- Non-adherence	50	69
Fluids restrictions		
- Adherence	18	25
- Non-adherence	54	75

Table 2 shown more than half (40 (56%)) patients perceived low social support, more than half (50 (69%)) patients non - adherence on dietary and majority (54 (75%)) patients non - adherence on fluids restriction

#### 3.3. Analysis of the relationship between social support with dietary adherence

Table 3. Relationship between social support with dietary and fluids restriction adherence

Social Support	Dietary		p-value
	adherence	non-adherence	
High	19 (59%)	13 (41%)	0,000
Low	3 (8%)	37 (93%)	

Table 3 indicates a significant relationship between social support and dietary adherence among hemodialysis patients with p value =0,000.

### 3.4. Analysis of the relationship between social support with Fluids Restrictions adherence

Table 4. Relationship between social support with dietary and fluids restriction adherence

Social Support	Fluids Restrictions		p-value
	adherence	non-adherence	
High	15 (47%)	17 (53%)	0,000
Low	3 (8%)	37 (93%)	

Table .4 illustrates a significant relationship between social support and fluids restrictions adherence among hemodialysis patient with p value=0,000.

## 3 DISCUSSION

### 4.1 Demographic and Patient social support

Result of this study showed from 72 patients, the age of participants was from a minimum of 26 years to a maximum of 68 years with an age range 40. The sample comprised of more male (41 (57%)) than females. Highest (27 (37%)) and Lowest (2(3%)) number of patients were found in grade junior high school and post graduate education. The majority,(51 (71%)) patients undergoing hemodialysis for more than 1 years. Fifty (69%) patients engagement with health education on dietary and fluids restriction more than 3 month ago.

This study shown more than half 40 (56%) patients perceived social support of individuals from family, friends, and significant others. This study showed that patients get the greatest support from the nearest person. more than half of patients get support from their partners, children and close friends. low social support indicates that the family has not been aware of the impact of patient support, such as the despair, anxiety and inadherence on treatment programs. The social support means providing physical and emosional support by family member and providing professional help or community support group (Leggat, 2005). Ahrari,et.al (2014), state family has been introduced as one of the most importand supportive resources for patient.

### 4.2 Relationship between social support with dietary and fluids restrictions adherence

The result of the present study showed that more than half patients have had a perceived low social support for individuals from family, friends, and significant others. This study revealed that more than half (69%) patients nonadherence on dietary and (75%) patient non-adherence on fluids resctriction. The statistical test indicates significant relationship between social support with dietary and fluids restriction adherence. The social support means providing comfort, attention, appreciation or help that felt by patient from the people around him (Sarafino, 2006). The social support can be provide in physical and emotional support by family member and providing professional help or community support group (Leggat,2005). The result of this study showed from 40 patient with low social support most patien (92,5%) low adherence to diet program. The findings of current study show that the patients with higher level social support had a higher level of adherence to dietary and fluids restriction. The most important significant support comes from family, partner and closed friends, beside that, patients still need help from health care provider with the special care due to special condition after hemodialysis treatment. Sayers et al, (2008) suggest that family members should play greater part in improving self-care behaviours. Having access to social support, be it from the spouse, family members, friends, colleagues or the community, has been consistently linked to better health outcomes for patients with various chronic illnesses (Kara,B, 2007). Patients supported by family members can serve as a counselor, active listener, and provide empowerment to patients to continue therapy and adapt to the illness.

Susetyo (2009) states that poor patient adherence to diet can be caused by the perception and way of view of patients on hemodialysis program. Patients do not have confidence to live better and tend to undergo hemodialis therapy is not serious, so patients feel no need to regulate

dietary intake. Dietary restrictions will change the patient's lifestyle, and are perceived as a disorder and the recommended diet is not preferred by the patient (Smeltzer and Bare 2002). Dietary interventions are essential in individuals with kidney diseases and nutritional recommendations vary depending on each patient's stage of progression, cause of disease, medications and other treatment methods.

Dietary and fluids restriction among hemodialysis patients is one aspect of medical treatment management whose goal is to minimize uremic and anemia symptoms and to reduce the incidence of fluids, electrolyte, and acid base imbalance (Morton, 2009). In this case, the education should focus more on promotional aspects of management with dietary and fluids restriction (Chironda and Bhegu, 2016). The result of the study showed a significant relationship between social support and fluids restriction adherence among hemodialysis patient with p value=0,000. Patients with higher support levels had significantly higher quality of life, minimal depression and higher acceptance of life with their disease (Janosky, et.al.2012).

#### 4 CONCLUSIONS

There are significant relationship between social support with dietary and fluids restriction among hemodialysis patients. Nurses have the primary role in empowering the families by providing many methods to encourage the families to support the hemodialysis patients.

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