

Skin Moisture on Chronic Kidney Disease Patients at the Hemodialysis Unit of Dr. Soekardjo Hospital Tasikmalaya

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Abstract--Chronic Kidney Disease (CKD) is a failure of kidney function to maintain metabolism, fluid and electrolyte balance due to progressive damage of kidney structure with manifestations of accumulation of metabolites. The impact of CKD on the integumentary system includes itching almost all over the body, dry skin, discoloration, etc. Dry skin conditions (xerosis cutis) resulting from the deposit of metabolites in skin tissue coupled with diuretic therapy that can reduce the skin's moisture level in CKD patients, this condition often becomes a complaint that gets worse as the disease progresses. Objective: This study aimed to determine the description of skin moisture in CKD patients in the Hemodialysis Unit of Dr. Soekardjo Hospital Tasikmalaya. Method: This research is a descriptive study. The number of respondents in this study were 90 people. The instrument used a skin moistmeter. Results : The results showed that the facial skin moisture of the majority CKD patients (71.1%) was categorized as Very Dry, the skin moisture of the hands of the majority CKD patients (62.2%) was categorized as Very Dry, and the skin moisture from the feet of the majority CKD patients (74.4%) categorized as Very dry. Conclusion: Based on these results it is expected that CKD patients can maintain their skin's moisture level better by using lotions, moisturizers, natural oils, or others so that patients can avoid complications that can damage the integrity of the skin due to dryness and itching.

Keywords: Chronic Kidney Disease (CKD), skin moisture

I. INTRODUCTION

Chronic Kidney Disease (CKD) is a non-communicable disease that needs attention because it has become a public health problem with a high incidence and has a large impact on community morbidity, mortality and socio-

economics due to the high cost of treatment. According to WHO data (2009), chronic kidney failure has caused 850,000 deaths each year. This figure showed that chronic kidney failure is ranked 12th highest as a cause of world mortality.

The results of the review of Hill et.al (2016), get a global prevalence of CKD of 13.4%. According to the results of the Global Burden of Disease (2010), CKD was the 27th leading cause of death in the world in 1990 and increased to 18th in 2010 [4].

Decreased kidney function will result in various clinical manifestations regarding nearly the human body system such as disorders of the gastrointestinal system, integumentary system, hematological system, neuromuscular system, cardiovascular system, endocrine system, other disorders including osteoporosis, osteitis, fibrillation, electrolyte disorders, metabolic acidosis, hyperkalemia, hyperphosphatemia, hypocalcemia. The impact of CKD on the body system is one of them on the integument system. In patients with CKD the skin becomes pale, yellowish, itchy, ecchymosis, dry, and more, easily infected and injured.

The prevalence of CKD in Indonesia continues to increase from year to year. The Indonesian Nephrology Association (PERNEFRI) in the Indonesia Renal Registry (IRR) program reported that the number of CKD sufferers in Indonesia in 2011 was 22,304 with 68.8% of new cases and in 2012 it increased to 28,782 with 68.1% of new cases. Based on Riskesdas data (2013), the prevalence of CKD is based on 0.2% and kidney stone disease 0.6%. IRR showed 82.4% of CKD patients in Indonesia underwent hemodialysis in 2014 and the number of hemodialysis patients had increased from the previous year. IRR also noted that the causes of kidney failure

in patients undergoing hemodialysis were hypertension (37%), diabetes mellitus (27%) and primary glomerulopathy (10%) [6].

The prevalence of CKD increases with age, with the most significant increase being in the age range of 35-44 years. The prevalence of men (0.3%) is higher than that of women (0.2%) while the provinces with the highest prevalence are Central Sulawesi at 0.5%, followed by Aceh, Gorontalo, North Sulawesi with 0.4% each and Java West of 0.3% [3].

II. MATERIAL AND METHOD

A. Procedure

This research is a quantitative descriptive, which is a type of research conducted to get a picture of the level of skin moisture in CKD patients undergoing treatment at the Hemodialysis Unit of dr. Soekardjo Hospital, Tasikmalaya.

Respondents in this study were all patients who underwent treatment at the Hemodialysis Unit of dr. Soekardjo Hospital, Tasikmalaya. Samples were taken using a total sampling method with 90 respondents.

The instrument used in obtaining data on the skin moisture level of CKD patients was a skin moisturemeter in the form of an electronic device that has been programmed in such a way that according to researchers no need to be calibrated manually.

B. Data Analysis

Analysis of the data used in this study was a univariate analysis of the skin moisture variable of CKD patients on the Hemodialysis Unit of dr. Soekardjo Hospital, Tasikmalaya, presented in a frequency distribution table.

III. RESULT

A. Respondent's Characteristics

Respondent's characteristics is presented in the tables below.

TABLE 1: DISTRIBUTION OF RESPONDENT'S FREQUENCY BASED ON THE AGE

No	Age	F	%
1	Early Adult (26-35 years old)	6	6.7
2	Late Adult (36-45 years old)	46	51.1
3	Early Elderly (46-55 years old)	24	26.7
4	Late Elderly (56-65 years old)	9	10.0
5	Old (>65 years old)	5	5.6
Total		90	100

Table 1 showed that the age range of early adulthood (26-35 years) were 6 respondents (6.7%), late adults (36-45 years) 46 respondents (51.1%), early elderly (46-55 years) 24 respondents (26.7%), late elderly (56-65 years) 9 respondents (10%), and old (> 65 years) were 5 respondents (5.6%).

TABLE 2: DISTRIBUTION OF RESPONDENT'S FREQUENCY BASED ON GENDER

No	Gender	F	%
1.	Men	27	30
2.	Women	63	70
Total		90	100

Table 2 showed that as many as 27(30%) respondents were male and 63(70%) respondents were female.

TABLE 3: FREQUENCY DISTRIBUTION OF FACIAL SKIN HUMIDITY

No	Skin moist	F	%
1.	Very Dry (<33%)	64	71.1
2.	Dry (34-37%)	14	15.6
3.	Normal (38-42%)	11	12.2
4.	Wet (> 43%)	1	1.1
Total		90	100.0

Based on table 3 above, the results of skin moisture in Chronic Kidney Disease (CKD) patients can be seen from 90 respondents with facial moisture in Chronic Kidney Disease (CKD) patients with very dry results (<32) of 64 respondents (71.1 %), Dry (34-37%) as many as 14 respondents (15.6%), Normal (38-42%) as many as 11 respondents (12.2%), more humidity (> 43%) as much as 1 respondent (1, 1%).

TABLE 4: FREQUENCY DISTRIBUTION OF HANDSKIN HUMIDITY

No	Skin Humidity	F	%
1.	Very Dry (<33%)	56	62.2
2.	Dry (34-37%)	22	24.4
3.	Normal (38-42%)	10	11.1
4.	Wet (> 43%)	2	2.2
Total		90	100.0

Based on Table 4 the results of observations of skin moisture on the hands in patients with Chronic Kidney Disease (CKD) with very dry results (<33%) of 56 respondents (62.2%), Dry (34-37%) of 22 respondents (24, 4%), Normal (38-42%) as many as 10 respondents (11.1%), More humidity (> 43%) as many as 2 respondents (2.2%).

TABLE 5: FREQUENCY DISTRIBUTION OF LEG SKIN HUMIDITY

No	Skin Humidity	F	%
1.	Very Dry (< 33%)	67	74.4
2.	Dry (34-37%)	17	18.9
3.	Normal (38-42%)	3	3.3
4.	Wet (> 43%)	3	3.3
Total		90	100.0

Based on table 5 the results of observations of skin moisture in the feet in patients with Chronic Kidney Disease (CKD) with very dry results (<33%) of 67 respondents (74.4%), Dry (34-37%) of 17 respondents (18, 9%), Normal (38-42%) as many as 3 respondents (3.3%), more humidity (> 43%) as many as 3 respondents (3.3%).

IV. DISCUSSION

The results showed that the age of Chronic Kidney Disease (CKD) patients on the Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya was mostly in late adulthood (36-45 years) as much as 51.1 percent. This is in line with the results of Hurlock's research (2012), where he found that the final adult group had the most age proportion, which was 46.6%. Based on these results it shows that CKD sufferers in the age range 36-45 years are the age most prone to CKD. In addition, the prevalence of female sufferers in this study was more than men, which was 70 percent. Although in some literature states that the prevalence of men is higher than women in this disease.

Xerosis cutis or dryness of the skin is one of the most common skin conditions seen in chronic kidney failure (4). It has been reported this affects 50-85% of patients undergoing dialysis. Usually found on the extensor surfaces of the forearms, legs, and thighs caused by a reduction in the size of the glands eccrine sweat and sebaceous gland atrophy. The use of diuretics also affects water levels in skin tissue [7].

Based on the results of this study indicate that skin moisture in CKD patients, the majority of respondents (63.3%) have very dry skin moisture. Facial skin moisture in the majority of respondents (71.1%) was also very dry. According to Baki and Alexander (2015), facial skin is generally described as a type of skin that is not too oily and not too dry. The skin normally has a structural and functional balance and has a small, fine pore structure and good blood supply. A decrease in moisture on the facial skin is often accompanied by itching that often becomes sores on the skin of patients.

The results showed that the moisture of the hand skin in the majority of CKD patients (62.2%) was categorized as very dry. Hand skin that has the characteristics of scaly, rough, and dull can cause skin tense and itchy. Dry skin often leads to premature aging and more wrinkles. Environmental influences such as low humidity, cold weather and, sunlight and constant contact with water, surfactants and, solvents, as well as some skin diseases and nutritional deficiencies can make skin dry [2].

The results showed that the moisture of the foot skin in CKD patients the majority of respondents (74.4%) were categorized as very dry. According to Baki and Alexander (2015), what if a low level of skin moisture is left will usually itchy, making patients tend to scratch the dry skin. This can cause secondary changes to the skin such as thickening, injury.

The goal of nursing is to help individuals achieve optimal health and the maximum level of function that each individual might be able to achieve. The role of nurses in a healthy-sick context is to improve health and prevent disease, while the nurse's role as a caregiver is a very important role from other roles (not to say the other roles are not important) because whether or not the nursing profession's services are felt directly by patients [1].

Nurses play a role in providing health education to patients with CKD, especially

regarding dietary limits, fluids, etc. Nurses plan nursing care and work closely with other health workers so that treatment and care programs can run well.

V. CONCLUSION

Conclusions from the results of the above research are as follows:

1. Moisture of facial skin on Chronic Kidney Disease (CKD) patients at the Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya, majority were categorized as very dry (71.1%)
2. Hand skin moisture on Chronic Kidney Disease (CKD) patients at the Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya, majority were categorized as Very Dry (62.2%)
3. Leg skin moisture on Chronic Kidney Disease (CKD) patients at the Hemodialysis Unit of dr. Soekardjo Hospital Tasikmalaya, majority were categorized Very Dry (74.4%)

REFERENCES

- [1] Asmadi, 2009 *.Hubungan Peran Perawat Sebagai Care Giver Dengan Kualitas Hidup Pasien Penyakit Gagal Ginjal Kronik Yang Menjalani Hemodialisa Di RSUP Prof.DR.RD. Kando Manado*
- [2] Baki dan Alexander (2015) Baki G. and Alexander K. S., 2015, *Introduction to Cosmetics Formulations and Technology*, John Wiley & Sons, Inc., Hoboken, New Jersey
- [3] Badan Penelitian Dan Pengembangan Kesehatan Kementerian Kesehatan RI. Riset Kesehatan Dasar. 2013. Di unduh dari <http://www.depkes.go.id/resources/download/general/Hasil%20Risikesdas%202013.pdf>
- [4] Depkes RI (2017). Situasi Penyakit Ginjal Kronis. Diunduh dari <http://www.depkes.go.id/download.php?file=download/pusdatin/infodatin/infodatin%20ginjal%202017.pdf>
- [5] Hurlock, 2012. *Relationship between sex and frequency of hemodialysis with the quality of life of patients with chronic renal failure undergoing hemodialysis in the general hospital area of Raden matta her Jambi*
- [6] Warhamna, N. and Husna, C. 2016. 'chronic kidney diseases based on the length in undergoing haemodialysis in dr. Zainoel abidin general hospital Zainoel Abidin Banda Aceh pada Februari Umum Daerah dr Zainoel Abidin Banda', 000, pp. 1–8.
- [7] Szepletowski J, Balaskas E, Taube K, Taberly A, Dupuy P. Quality of life in patients with uremic xerosis and pruritis. *Acta Derm Venereol.* 2011;91(3):313–317.