http://ejournal.seaninstitute.or.id/index.php/healt
Jurnal eduhealth, Volume 13, No 02, 2022
E-ISSN., P-ISSN. 2087-3271

Analysis Of Creatinine Levels In Failed Patients Chronic Kidney Pre And Post Hemodialization At Santa Elisabeth Hospital Medan Year 2022

Paska R Situmorang[1] , Paka Brema Kaban[2] , David Sumanto Napitupulu[3]
[1,2,3] STIKES Santa Elisabeth Medan

A R T I C L E I N F O

Keywords:
Creatinine level; hemodialysis; chronic kidney failure

ABSTRACT

Chronic renal failure (CKD) is a clinical syndrome due to a persistent decline in kidney function due to nephron damage. Efforts reduce serum creatinine levels are of course by improving the function of the kidneys, namely by hemodialysis. This study aims to analyze the results of blood creatinine levels in patients with chronic renal failure pre and post hemodialysis at Santa Elisabeth Hospital Medan 2022. This study uses a descriptive cross-sectional approach with population in this study are 178 people and a sample of 64 people. Data collection is carried out using an analyzer. The results showed an increase in pre-hemodialysis creatinine levels as many as 33 samples (51.6%). and results of post hemodialysis decreased by 29 samples (45.3%). The results of the average pre and post hemodialysis blood creatinine levels show that the pre hemodialysis blood creatinine average level was 8.5398 mg/dl. The post hemodialysis average blood creatinine level is 5.4333 mg/dl. It can be concluded that there is a change in the pre-hemodialysis average blood creatinine level. and post hemodialysis is 4 mg/dl. From the results of measurements of blood creatinine levels of the study sample, it was found that most of the patients undergoing hemodialysis were abnormal

E-mail:
Pakabremakaban@gmail.com
paska.situmorang @yahoo.co.id
davidnapitupulu380@gmail.com

1. INTRODUCTION

Chronic kidney failure is a non-communicable disease but requires special attention because it has become a public health problem with a fairly high incidence (Roma, 2017). The incidence of chronic kidney failure in the United States in 2012 reached 363 per million people per year and increased in 2013 to 117,162 cases (Usrds, 2017). The condition of kidney failure is indicated by the loss of the ability to filter and clean the blood so that action is needed to treat this condition. Chronic renal failure (CKD) is a clinical syndrome due to a persistent decline in kidney function due to nephron damage (Srianti et al., 2021).

The incidence of chronic kidney failure in the United States in 2012 reached 363 per million people per year and increased in 2013 to 117,162 cases (Usrds, 2017). The condition of kidney failure is indicated by the loss of the ability to filter and clean the blood so that action is needed to treat this condition. The results of Basic Health Research in 2013 and 2018 show that based on doctor's diagnosis in 2013 it was 0.2% and there was an increase in 2018 of 0.38% (Kemenkes RI, 2018). The initial survey conducted by researchers on kidney failure patients at Santa Elisabeth Hospital Medan, namely in inpatients in January as many as 10 patients and in February as many as 11 patients. In outpatient renal failure patients in January as many as 84 patients, and in February as many as 94 patients.

One of the efforts to reduce serum creatinine levels is to improve kidney function, namely by dialysis (hemodialysis). Hemodialysis is one of the most widely used renal function replacement therapies for patients with End Stage Renal Disease (ESRD). Hemodialysis therapy cannot cure or restore kidney disease and cannot compensate for the loss of metabolic or endocrine activity carried out by the kidneys and the impact of kidney failure and its therapy on the patient's quality of life. The indicator of the success of hemodialysis is if the toxic substances in the blood can be eliminated and the patient can manage body fluids by controlling weight gain. Weight gain in a short time can mean an increase in the amount of fluid in the body (Bayhakki, 2015). Chronic kidney failure patients undergoing hemodialysis therapy based on data from the IRR in 2015 were 30,554. The proportion of patients with CKD (Chronic Kidney Disease) who had or were on hemodialysis aged 15 years was 19.3%. While the mortality rate in patients undergoing hemodialysis in 2015 was recorded as 1,243 people (Fransisca, 2019).

Based on the description of the study, the researcher was interested in analyzing the creatinine levels of blood samples in patients with kidney failure at Santa Elisabeth Hospital Medan. Researchers hope that this research can increase knowledge and understanding of chronic kidney disease patients undergoing hemodialysis so that researchers can provide health education and motivation to hemodialysis patients and the quality of life of patients is expected to be better.

2. METHOD

This study is a descriptive study with a cross sectional approach using a population, namely outpatients with Chronic Kidney Failure who underwent hemodialysis at Santa Santa Elisabeth Hospital, Medan from January to February, totaling 178 patients. The sample used was 64 people who were taken using purposive sampling technique. The research instrument used was a sheet using a standard operational description of the procedure for checking creatinine levels. Sample examination was carried out using the Siemens Dimension EXL 200 Chemistry analyzer which consisted of three methods, namely chemical photometer, IMT (Integrated Multisensor Technology), and Immunoassay.

The collected data is then processed quantitatively and analyzed using computerized methods. This research has obtained permission and prior approval from the STIKes Santa Elisabeth Medan code of ethics commission with No: 029/KEPK-SE/PE-DT/IV/2022.

3. RESULT AND DISCUSSION

Based on the results of the study, it is known that the majority of the presentations are aged 60-68 years, namely 22 patients (34.4%), and a small proportion are at the age of 76-86 years, namely 1 patient (1.6%). While the most gender is female, as many as 33 patients (51.6%). The following is the result of the frequency distribution of the results of pre-hemodialysis keratinin levels:

Table 1. Frequency distribution of the results of pre and post hemodialysis creatinine levels

Creatinine Level	Frequency (f)	Percent (%)
PreCreatinine HD Results		
Normal Value Male 0.8 – 1.3 mg/dl	0	0
Female Normal Value 0.6-1.0 mg/dl	0	0
Abnormal Male > 1.3 mg/dl	31	48.4
Female Abnormal > 1.0 mg/dl	33	51.6
HD Post Creatinine Results		
Normal Value Male 0.8 -1.3 mg/dl	3	.7
Normal Value Female 0.6-1.0 mg/dl	4	6.3
Abnormal Male > 1.3 mg/dl	28	43.8
Female Abnormal > 1.0 mg/dl	29	45.3

Table 1 shows that the results of pre hemodialysis were more abnormal in women, namely 33 patients (51.6%). Most of the abnormal results were male as many as 31 patients (48.4%). Based on the test results, it is known that there is a decrease in the abnormality of women more as many as 29 patients (45.3), the normal value of men is less, namely 3 patients (4.7%). The following are the statistical results of pre and post hemodialysis keratinin levels in patients with Chronic Kidney Failure on Hemodialysis in the Hemodialysis Room of Santa Elisabeth Hospital Medan in 2022:

Table 2. Statistics of pre and post hemodialysis creatinine levels

Category	N	Min	Max	mean
Pre	64	1.13	19.80	8.5398
Post	64	.80	125.00	5.4333

Based on table 2, the results of the creatinine levels of 64 samples of pre hemodialysis showed that the average value was 8.5398 mg/dl with SD of 4.73212. Min score 1.13 and Max score 19.80 and post creatinine levels Average score Average score 5.4333. with SD 15.32429 Min Value .80, Max Value 125.00.

4. CONCLUSION

Based on the description of the results and discussion, it can be concluded that the results of the creatinine levels of 64 pre hemodialysis samples have an average value of 8.5398 mg/dl with an SD of 4.73212. Min score 1.13 and Max score 19.80 and post creatinine levels Average score Average score 5.4333. with SD 15.32429 Min Value .80, Max Value 125.00. On this average, it can be said that the respondent's blood creatinine level has decreased. This value indicates a change in the average pre and post hemodialysis blood creatinine levels, which is 4 mg/dl. From the results of the measurement of blood creatinine levels in the study sample, it was found that most of the patients undergoing hemodialysis were abnormal.

The advice that researchers can give based on the results of this study is that patients with Chronic Kidney Failure (CKD) are advised to monitor their health condition and pay attention to their diet by reducing their intake of high-protein foods such as milk, eggs, and nuts, so that their serum creatinine levels can be controlled.

5. REFERENCES

[1] Bayhakki, Y. H. (2015). Hubungan Lama Menjalani Hemodialisis dengan Inter-Dialytic Weight Gain(IDWG) pada Pasien Hemodialisis. Jurnal Keperawatan Padjajaran, 5(3), 12–18.
[2] Fransisca, D. (2019). Hubungan Antara Lama Hemodialisa Dengan Fungsi Kognitif Pasien Dengan Gagal Ginjal Kronik Menggunakan Montreal Cognitive Assesment Versi Indonesia (Moca-Ina) Di Ruang Hemodialisa, Rsud Pasar Rebo. Skripsi. Universitas Pembangunan Nasional "Veteran" Jakarta.
[3] Kemenkes RI. (2018). Hasil Riset Kesehatan Dasar Tahun 2018.
[4] Nursiyah. (2019). Pengaruh Hemodialisa Terhadap Kadar Ureum Dan Kreatinin Darah Pada Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisis. Skripsi. Poltekkes Jakarta.
[5] Roma, Y. (2017). Faktor Risiko Kejadian Gagal Ginjal Kronik Di Rsup Dr. M. Djamil Padang Tahun 2016. Skripsi. Universitas Andalas.
[6] Srianti, N. M., Sukmandari, N. M. A., Putu, S., Ayu, A., Dewi, P., Badung, R. S. D. M., Studi, P., Ners, P., Bina, S., & Bali, U. (2021). Perbedaan Tekanan Darah Intradialisis Pada Pasien Gagal Ginjal Kronis Dengan Interdialytic Weight Gains >5% Dan <5% Di Ruang Hemodialisis Rsd Mangusada Badung. Jurnal Nursing Update, 12, 25–32. http://jurnal.aiska-university.ac.id/index.php/gaster/article/view/139
[7] Suryawan, D. G. A., Arjani, I. A. M. S., & Sudarmanto, I. G. (2016). Gambaran Kadar Ureum Dan Kreatinin Serum Pada Pasien Gagal Ginjal Kronis Yang Menjalani Terapi Hemodialisis Di Rsud Sanjiwani Gianyar. The Journal of Medical Laboratory, 4(2).
[8] Usrds. (2017). USRDS Annual Data Report: Executive Summary. USRDS.