

Evaluation Of The Rationality Of The Use Of Anemia Drugs In Anemia Patients In Rsd Gunung Jati Cirebon City For The Period January-December 2022

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ABSTRACT

Keywords:

Rationality, Anemia, Drug use, RSD Gunung Jati

Anemia is a condition where the hemoglobin (Hb) level in the blood is less than normal levels. The aim of this research is to determine the characteristics of anemia patients in the inpatient installation at RSD Gunung Jati, Cirebon City, to find out the prescribing of anemia at RSD Gunung Jati, Cirebon City for the period January- December 2022 and to determine the rationality evaluation of the use of anemia medication at RSD Gunung Jati, Cirebon City on an appropriate basis. indication, correct diagnosis, right drug and right dose. This study used a retrospective research design. The rationality analysis was carried out using a purposive sampling method. The data taken is medical record data and patient prescriptions to see the rationality of treatment. The number of samples in this study was 73 samples which met the inclusion criteria. The statistical analysis used in this research is chi-square and Mann-Whitney. The parameters used in the research are the correct indication, correct diagnosis, correct drug and correct dose. The results of the study showed that anemia was mostly experienced by women as many as 37 patients (51%) and elderly people (46-65 years) as many as 40 patients (55%) with elementary school education levels as many as 35 patients (48%). The anemia drugs most commonly used by anemia patients in patient installations at RSD Gunung Jati, Cirebon City for the period January-December 2022 are multivitamins, haemostatics, neurotropic vitamins and iron preparations, respectively. The evaluation results showed that the indication was 100% correct, the diagnosis was 100% correct, the drug was 100% correct and the dose was 95% correct. The statistical test results showed that the use of anemia drugs in anemia patients met the rational requirements and had a significant rationality value .

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1. INTRODUCTION

Anemia is a condition in which the level of Hemoglobin (Hb) in the blood is less than normal levels. Hb is interpreted as a metalloprotein, namely a protein containing iron in red blood cells, whose function is to transport oxygen from the lungs to all parts of the body. Body tissues need oxygen to carry out their functions. Several symptoms will arise if the muscles and brain experience a lack of oxygen, including the body being less fit and decreased concentration. Hb is formed through the combination of iron and proteins that form erythrocytes or red blood cells. Anemia is a symptom whose cause must be explored and how to overcome it, which is carried out based on the cause (Meliliyanti and Diah, 2020).

Anemia is a nutritional problem that is often found in all corners of the world. Apart from that, it also serves as PR in developing countries. Millions of people experience major problems that attack human health. It is estimated that there is a 9% prevalence of anemia in developed countries, while in developing countries the value reaches 43%. Anemia can cause a decrease in the body's immune system, which can make it easier for sufferers to contract infectious diseases. On the other hand,

anemia can also hinder the development of brain intelligence and physical growth (Hadju, et al., 2013; Rabie, 2019).

Based on the World Health Organization (WHO) in 2019, it is estimated that there were 303,000 maternal deaths or approximately 216/100,000 births worldwide. The prevalence of anemia experienced by pregnant women globally is 41.8%. Half of these cases are due to iron deficiency. In Africa, the prevalence of anemia experienced by pregnant women is 57.1%, America 24.1%, Europe 25.1%, and Asia 48.2%. An individual will suffer from anemia if they have Hb levels < 11% in the first and third trimesters (Ramadhini and Sri, 2021).

Based on the results of data also obtained from the Cirebon City Health Service, in 2021 the number of mothers who received iron tablets in the district attorney's office was 462 people, the Wungkuk weak area was 749 people, the Pekalipan area was 334 people, the Kesambi area was 808 people, while the other areas The most occurred in the Harjamukti area with a total of 1,596 people. It can be concluded that a large number of Cirebon city residents still suffer from anemia (Cirebon Health Service, 2022).

Globally, anemia affects 1.62 billion, of which around 33% are school children. WHO said that in the world, the prevalence of anemia ranges from 40 to 88%. Based on the Household Health Survey, in adolescence and school the prevalence reaches 26.5%. Based on the publication of Basic Health Research (RISKESDAS) in 2008, the national prevalence of anemia was 11.9%, of which 12.8% of anemia sufferers were children and 11.9% for adults (Prasetya, et al., 2019), increasing in In 2018, the prevalence of anemia suffered by teenagers was around 32%, which means that out of 10 teenagers, there were 3 to 4 children who had anemia. This is due to non-optimal physical activity and unbalanced nutritional intake (Anonymous, 2021). If viewed broadly, there are several problems behind the high number of anemia sufferers experienced by Indonesian society. So in this case there needs to be a good understanding of the rationality of drug use which includes the right dose, the right drug, the right diagnosis and the right indication. In Islam, treatment has been explained as stated by Allah in QS. Jonah verse 57.

يَا أَيُّهَا النَّاسُ قَدْ جَاءَكُمْ مَوْعِظَةٌ مِّن رَّبِّكُمْ وَشِفَاءٌ لِّمَا فِي الصُّدُورِ وَهُدًى وَرَحْمَةٌ لِّلْمُؤْمِنِينَ

Meaning: "O people! Indeed, there has come to you a lesson (the Qur'an) from your Lord, a cure for diseases in the chest and guidance and mercy for those who believe."

This research was carried out at RSD Gunung Jati, Cirebon City, because there had been no research regarding evaluating the rationality of using anemia medication in anemia sufferers before. Seen through the many phenomena of irrational treatment that occur, the author is interested in evaluating the rationality of using anemia medication in inpatient anemia patients at RSD Gunung Jati, Cirebon City in the period January-December 2022. This research aims to identify the characteristics of anemia patients at RSD Gunung Jati City Cirebon in the January-December 2022 period.

2. METHOD

Research is a retrospective study. This research uses medical records and prescriptions to see the rationality of anemia treatment at RSD Gunung Jati, Cirebon City for the period January-December 2022. Data was collected from medical record data at RSD Gunung Jati, Cirebon City for the period January-February 2023. Medical record data was taken at period January to December 2022. The population in this study is all medical record data of anemia patients who took anemia medication at RSD Gunung Jati, Cirebon City in the period January-December 2022. The population in this research was 90 prescriptions. The samples taken in this research were carried out using the (Purpose Sampling) method. The sample is calculated using the Slovin formula below, (RA, Dodi., et al., 2021):

$$n = \frac{N}{1 + N (aR)^2}$$

Information :

n = total Sample N = total Population

E = Tolerance limit (0.05)

The number of prescriptions for anemia medication at Gunung Jati Hospital, Cirebon City is 90, so the total sample used is

$$n = \frac{N}{1 + N(eR^2)}$$

$$n = \frac{90}{1 + 90(0.05^2)}$$

$$n = \frac{90}{1.225}$$

$$n = 73$$

So the number of samples from the population prescribing anemia medication in the period January-December 2022 at the Cirebon City Regional Hospital is 73 prescriptions .

3. RESULTS AND DISCUSSION

Characteristics of Anemic Patients Undergoing Inpatient Treatment at RSD Gunung Jati, Cirebon City

This research has been applied to patients who suffer from anemia and are hospitalized at RSD Gunung Jati, Cirebon City for the period January - December 2022. Data collection was carried out in April-May 2023, 90 samples were obtained based on inclusion and exclusion criteria. The characteristics of the objects in this research include education level, gender and age. This characteristic is biological age which is calculated through biological maturity in patients undergoing inpatient treatment at RSD Gunung Jati, Cirebon City. Age characteristics are divided into several age ranges, namely: toddlers (0-5 years), children (6-11 years), teenagers (12-25 years), adults (26-45 years), elderly (46-65 years), seniors (> 65 years) (Al-Amin, 2017). The results of research observations on anemia patients who were undergoing treatment at the Gunung Jati Hospital, Cirebon City showed that there were 2 teenagers (3%), 17 adults (23%), 40 elderly people (55%) and 40 elderly people (55%). There were 14 seniors (19%). Where the minimum age to undergo anemia treatment is adolescence. Meanwhile, the age most frequently undergoing anemia treatment is the elderly. Characteristics based on age can be reviewed in table 4 and figure 3 below:

Table 1 . The total number of patients in various age ranges in a monthly period January-December 2022 at RSD Gunung Jati, Cirebon City

Kelompok Usia	Frekuensi	Persentase (%)	Asymp.Sig
Remaja	2	3%	0,000
Dewasa	17	23%	
Lansia	40	55%	
Manula	14	19%	
Total	73	100%	

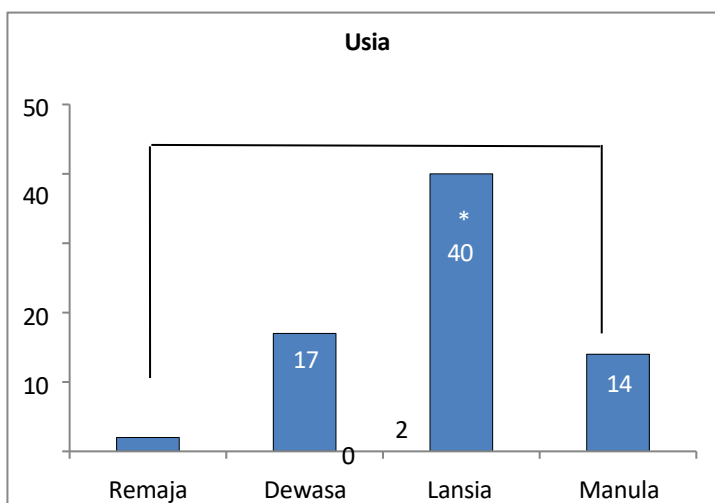


Figure 1 . The total number of patients of various age ranges in the period January-December 2022 at RSD Gunung Jati, Cirebon City

This characteristic is the gender of patients who are receiving inpatient treatment at RSD Gunung Jati, Cirebon City. From the results of observations of anemia patients, there were a total of 73 people, 36 men and 37 women. Anemic patients undergoing anemia treatment at the Gunung Jati RSD inpatient center are mostly women, which can be seen in table 5 and figure 4 below

Table 2 . Total number of patients by gender period January-December 2022 at RSD X Cirebon City

Type Sex	Frequency	Percentage (%)	Asymp.Sig
Woman	37	51%	0.725
boy _	36	49%	
Total	73	100%	

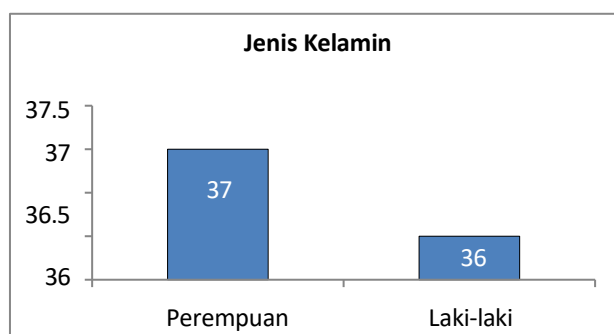


Figure 2 . The total number of patients based on gender for the period January-December 2022 at RSD Gunung Jati, Cirebon City

Based on the results of observations of the education level of anemia patients being treated at RSD Gunung Jati Kota, it shows that there are more anemia patients at the elementary school education level with a total of 35 people or 48%. There were 10 patients with no education level or 14%. The number of patients with junior high school education level was 8 people or 11%. There were a total of 9 patients with a high school education level or 12%. There are a total of 2 patients with education level D2 or 3%. There are a total of 7 S1 level patients or 9%. Meanwhile, there are a total of 2 S2 level patients or 3%. Characteristics of the education level of anemia patients can be seen in Figure 5 below:

Table 3. Total number of patients based on education level period January-December 2022 at RSD Gunung Jati, Cirebon City

Education Level	Frequency	Percentage (%)	Asymp.Sig
No School	10	14%	
elementary school	35*	48%	
JUNIOR HIGH SCHOOL	8	11%	
SENIOR HIGH SCHOOL	9	12%	0,000
D2	2	3%	
S1	7	10%	
S2	2	3%	
Total	73	100%	

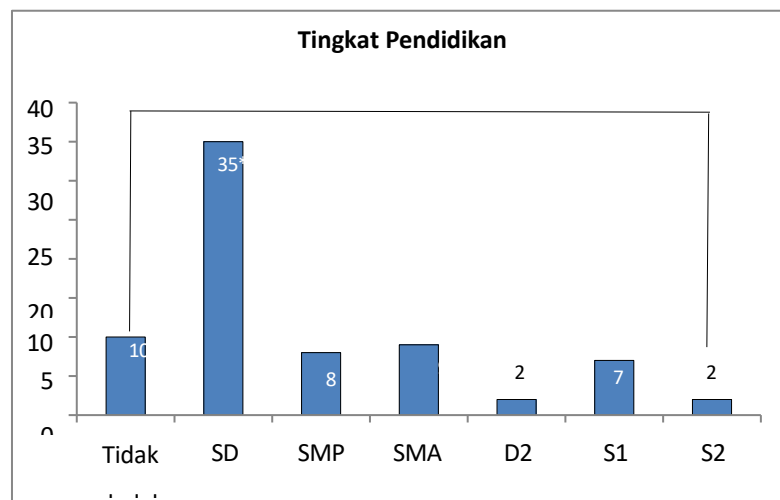


Figure 3. Total number of patients based on educational level of period January-December 2022

Disease Diagnosis

The patient's treatment pattern is a description of several things that are related to the treatment the anemia patient is undergoing. This treatment includes patient diagnosis and symptoms of the disease of patients who are undergoing treatment at RSD Gunung Jati, Cirebon City.

Symptoms of Anemia

In general, the symptoms of anemia are signs of a hyperdynamic or weak state (roaring in the ears, pounding heart, and fast and strong pulse) (Fitriany and Amelia, 2018). Symptoms and signs of anemia patients who are receiving inpatient treatment at RSD Gunung Jati, Cirebon City show that 60 patients (82%) have a single symptom, such as 56 patients (78%), weakness, 2 patients (2%), dizziness, body weak there was 1 patient (1%), hemoglobin

low was 1 patient (1%). There were 11 patients (15%) with 2 symptoms, such as weakness and dizziness in 3 patients (4%), weakness and low hemoglobin in 3 patients (4%), weakness and dizziness in 4 patients (6%), pallor. and weakness in 1 patient (1%). Meanwhile, there were 2 patients (2%) with 3 symptoms, such as 1 patient (1%) who had a weak body accompanied by paleness and low hemoglobin, 1 patient (1%) who was pale accompanied by a weak body and dizzy eyes, which can be seen in table 7 Figure 6 below:

Table 4. Number of Symptoms of Anemia Patients for the Period January – December 2022 at RSD Gunung Jati, Cirebon City

Amount Symptom	Frequency	Percentage (%)
Single Symptom	60	82%
Weak	56	78%
Head Dizzy	2	2%
Weak Body	1	1%

Evaluation Of The Rationality Of The Use Of Anemia Drugs In Anemia Patients In Rsd Gunung Jati Cirebon City For The Period January-December 2022. Miftahul Janah, et.al

Low Hemoglobin	1	1%
2 Symptoms	11	15%
Weak + Head Dizzy	3	4%
Weak + Hemoglobin Low	3	4%
Weak + Eye Fireflies _	4	6%
Pale + Weak	1	1%
3 Symptoms	2	2%
Body Weak + Pale + Low hemoglobin	1	1%
Pale + Body Weak + Eye Dizzy- Fireflies	1	1%
Total	73	100%

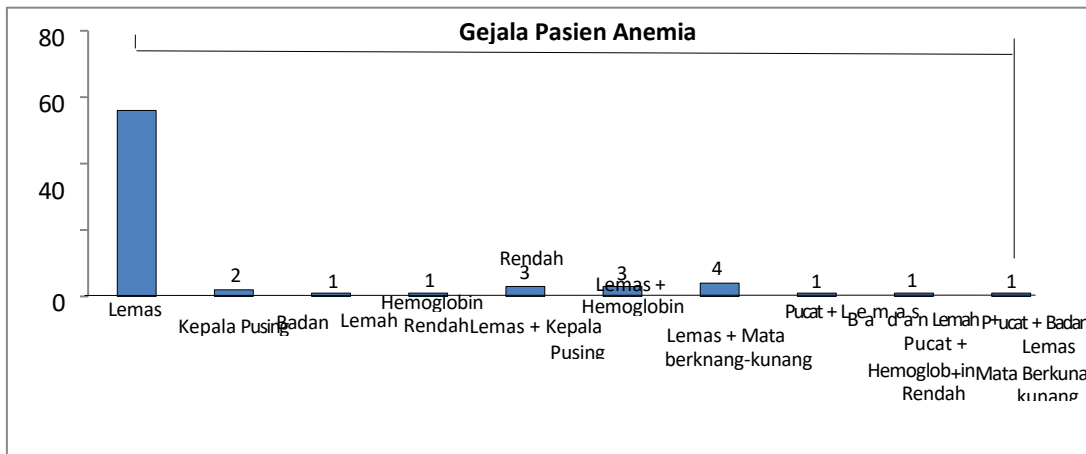


Figure 4. Symptoms of Anemia Patients at RSD Gunung Jati, Cirebon City January-December 2022 period

Diagnosis of Anemia Types of Anemia

A diagnosis is a condition experienced by a patient that can result in the patient needing medical treatment. The results of this study showed that 36 patients with anemia who were receiving inpatient treatment at RSD Gunung Jati, Cirebon City had acute anemia (49%), 6 patients with iron deficiency anemia (8%) and 31 patients with folate deficiency anemia (42%).) which can be reviewed in table 8 and figure 7 below:

Table 5. Types of Anemia

Anemia	Frequency	Percentage %
Anemia I	36	49%
Anemia Defisiensi iron	6	8%
Anemia Defisiensi Folate	31	42%
Amount	73	100%

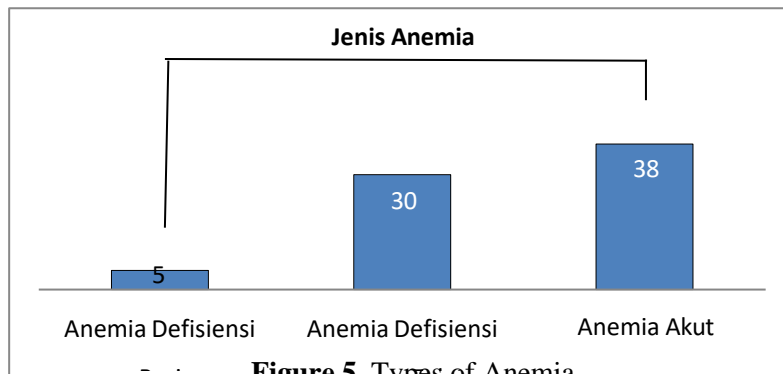


Figure 5. Types of Anemia

Evaluation Of The Rationality Of The Use Of Anemia Drugs In Anemia Patients In Rsd Gunung Jati Cirebon City For The Period January-December 2022. Miftahul Janah, et.al

Anemia with other diseases

A comorbid disease is a condition that previously existed and has an influence on the length of patient care for their health (Soegondo, 2007; Rabie, 2019). The results of the study showed that there were other diseases in anemia patients undergoing inpatient treatment at RSD Gunung Jati, Cirebon City. There were a total of 10 patients who had kidney failure as many as 8 patients (11%) and 2 patients (3%) with hypertension. Anemia without other diseases was 63 patients (86%). Below are the results of the diagnosis of patients undergoing inpatient treatment at RSD Gunung Jati, Cirebon City, which can be reviewed in table 9, figure 8 below:

Table 6 . Diagnosis Results

Results Diagnosis	Frequency	Percentage (%)
With Other Diseases	10	14%
Fail Kidney	8	11%
Hypertension	2	3%
No With Disease Other	63	86%
Total	73	100%

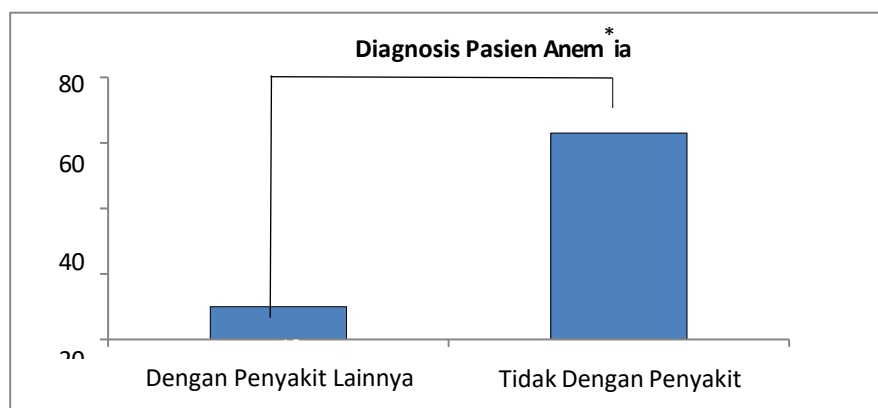


Figure 6 . Diagnosis of Anemic Patients

Use of drugs for anemia and other diseases

Determining the drugs used for pharmacological therapy carried out by patients with anemia along with other diseases.

Anemia Medication Used in Inpatient Hospitals at Gunung Jati Hospital, Cirebon City

Determining the drugs used for pharmacological therapy carried out by patients with anemia along with other diseases is called drug use. From the results of observations obtained, there were 54 people (74%) using anemia medication for anemia patients who were undergoing inpatient treatment at Gunung Jati Hospital, Cirebon City with a single drug, 17 people (23%) with a combination of 2 drugs and 2 combinations of 4 drugs. people (3%). Below is the use of anemia medication for inpatients at RSD Gunung Jati, Cirebon City, which can be reviewed in table 10, figure 9 below.

Table 7. Treatment Patterns for Anemic Patients for the Period January-December 2022 at RSD Gunung Jati, Cirebon City

Type Antianemia	Total (N=73)	Percentage (%)
Single	54	74%
Injection Vitamin K	27*	36%
Tablet Sour folate	21	29%
Tablet Sulfos Fero	3	4%
Tablet Sulfate feniurus	2	3%
Tablet Neurobion	1	1
Combination 2 drug	17	23%

Tablet sour folate tablet + neurobiont	11	15%
Injection vitamin K + vitamin B1	2	3%
Neurobion vitamin K+ tablet injection	2	3%
Tablet sour folate + injection B12		
Combination 4 drug	2	3%
Injection vitamin K + tablet ferrous sulfos + folic acid tablets + injection vitamin B6	2	3%
Total	73	100%

Drugs Used for Other Diseases in Anemic Patients

Other diseases in anemia patients undergoing inpatient treatment at RSD Gunung Jati, Cirebon City are kidney failure and hypertension. The drugs used to treat other diseases, kidney failure, were Kalitake and Bicnat in 8 patients (11%), while for other diseases, hypertension, the drugs used were Concor in 2 patients which can be reviewed in table Figure 10.

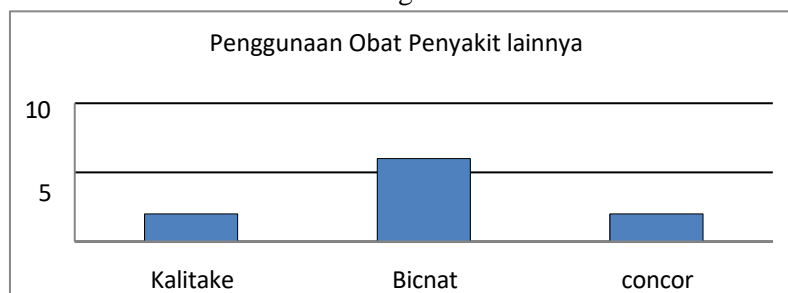


Figure 7 . Use of drugs for other diseases

In this study, the classes of drugs received by anemia patients were grouped into 3 groups, namely acute anemia, folate deficiency anemia, and iron deficiency anemia. Based on table 10, the results of research carried out on anemia patients who received inpatient treatment at RSD Gunung Jati, Cirebon City, the drug classes with the most to the fewest respectively were the drug class for acute anemia (52%), folate deficiency anemia (41 %), and vitamin iron deficiency anemia (7%).

Discussion

Anemia is a disease caused by a condition in which the hemoglobin level is lower than normal levels (Meliliyanti and Diah, 2020). Based on morphology, anemia can be classified into 3, namely macrocytic anemia, microcytic anemia and normochromic anemia (Setiawati, et al., 2014). Normochromic anemia is anemia that has the characteristics of normal red blood cells, namely normal Mean Corpuscular Volume (MCV) (between 80-100 fL) (Mutiawati, 2018). Such as kidney disorders, endocrine disorders, chronic diseases such as infections, hemolysis and acute blood loss (Mersil, 2019). Microcytic anemia, is anemia characterized by small red blood cells with a Mean Corpuscular Volume (MCV) <80 Fl (Mutiawati, 2018) like iron deficiency anemia (Mersil, 2019). Macrocytic anemia is anemia characterized by a Mean Corpuscular Volume (MCV) of >100 fL, the main characteristic of which is a cell shape that appears larger than the size of the cells in normal blood in the peripheral blood layer. (Mutiawati, 2018) This is due to the cessation of DNA nucleic acids or the occurrence of disorders such as those applied in folic acid deficiency Mersi, 2019).

This research is aimed at identifying the characteristics of anemia patients, the prevalence of anemia and evaluating the rationality of using anemia drugs in anemia patients at Gunung Jati Hospital, Cirebon City based on correct indications, correct diagnosis, correct drug and correct dose. This research observed several characteristics of anemia patients with other diseases. The

characteristics observed were age, gender, education level, drugs used and anemia patients with other diseases. Observations were carried out using data obtained from inpatient medical records which contained the patient's identity, implementation data, diagnosis, medical support, length of stay, physical examination results, anamnesis results, date and time of treatment. This research was carried out at RSD Gunung Jati, Cirebon City in January-February 2022. Medical record data was taken in the period January-December 2022. Medical record data was taken in the January-December 2022 period as many as 90 samples based on inclusion and exclusion criteria. Observation of Anemic patients at RSD Gunung Jati, Cirebon City were diagnosed based on the criteria of age, gender and level of education.

Meanwhile, clinical observations from medical records were carried out regarding the use of anemia medication and clinical symptoms. Observations made based on age characteristics showed that the majority of patients were in the elderly age category with 40 patients (55%) SPSS analysis results showed that asymp. Sig 0.000 where p value < 0.005 which means there is no significant difference which can be seen in Figure 3 Table 4. Anemic patients occur in the elderly due to minimal consumption of nutrients such as vitamin C, folic acid, vitamin B12, iron and protein. . Therefore, deficient nutrients can have an influence on changes in the characteristics of the elderly, such as infectious, chronic and degenerative diseases which can affect eating patterns. And it can also influence low consumption of nutrients which causes the elderly to suffer from anemia.

Characteristics of gender show that 37 patients (51%) were women who experienced anemia and 36 patients were men (49%). From SPSS asymp analysis. Sig 0.725 where the p value is > 0.05 , which means there is no significant difference compared to men, which can be seen from table 5 and figure 4, which states that women have the highest risk of contracting anemia, especially adolescent girls and women in their productive years. . This is also in accordance with research conducted by Jaime JC at All (2011), which showed that there were 50 aplastic anemia patients, of which the majority were 26 (52%) women and 24 (48%) men (Mutmainnah, et al., 2022) .

Meanwhile, the results of the characteristics of anemia patients based on education level show that 10 patients with anemia have no school education (14%), 35 patients have primary school education, 8 patients have secondary school education (8%). patients (11%), SMA in 9 patients (12%), D2 in 2 patients (3%), S1 a total of 7 patients (10%), and S2 a total of 2 patients (3%). Anemia is most commonly suffered by patients with elementary school education. The SPSS analysis results are asymp. Sig 0.000 where p value < 0.005 which means there is no significant difference which can be seen through table 6 and figure 5 which shows that the level of education can influence the mindset of acting and responding to an illness.

Symptoms of anemic patients undergoing treatment at the Gunung Jati Hospital, Cirebon City, had single symptoms, namely weakness in 56 patients (77%), headache in 2 patients (2%), body weakness in 1 patient (1%), low hemoglobin in 1 patients (1%). With 2 symptoms, namely weakness and dizziness in 3 patients (4%), weakness and low hemoglobin in 3 patients (4%), weakness and dizzy eyes in 4 patients (5%), pallor and weakness in 1 patient (1 %). With 3 symptoms, namely a weak body accompanied by pallor and low hemoglobin in 1 patient (1%), pallor accompanied by a weak body and dim eyes in 1 patient (1%). The symptom that the majority of anemia patients suffer from is a single symptom, namely weakness, which can be reviewed in table 7 and figure 6. Fatigue and weakness are one of the easiest symptoms of anemia to recognize, find and are the most common in anemia patients. These symptoms could be due to minimal iron intake in the body. Not only that, anemia can also be caused by other diseases such as hypertension and kidney failure.

Based on the type of anemia suffered by anemia patients undergoing treatment at RSD Gunung Jati, Cirebon City for the period January-December 2022, they are acute anemia, folate deficiency anemia and iron deficiency anemia. The results of this study showed that there were 36 patients with acute anemia (49%), 6 patients with iron deficiency anemia (8%) and 31 patients with folate deficiency anemia (42%) which can be seen from table 8 and figure 7. In In this case, the majority of anemia patients at RSD Gunung Jati, Cirebon City for the January-December 2022 period suffer from acute anemia.

Acute anemia is a condition characterized by a sudden and rapid decrease in red blood cells. This is caused by bleeding in the digestive tract (Killen and Ajay, 2023). Folic acid deficiency anemia is defined as anemia caused by a lack of folic acid in the body. Vitamin B12 and folic acid are substances that are related to food elements that the body needs. These two substances have the main function of intracellular metabolism. If these two substances are deficient, it can result in incomplete DNA synthesis. In conditions of anemia, folate and vitamin B12 deficiency, the spinal cord only produces a small number of red blood cells. Without a supply of red blood cells which have lots of oxygen, the body will not be able to function perfectly. Folic acid and vitamin B12 deficiency anemia includes megaloblastic anemia, where red blood cells do not develop normally, namely they are very large. This deficiency of folic acid and vitamin B12 causes patients to suffer from several medical disorders. This deficiency occurs if the levels of folic acid are lower than entrocyte folate <140 or serum volatiles > 130 mg/ml (Rabie, 2019). Iron Deficiency Anemia is what occurs due to a lack of iron in the body, resulting in not enough iron needed. This can be seen through the appearance of hypochromic microcytic erythrocytes, transferrin, iron reserves, and decreasing sorum iron levels, accompanied by an increase in total iron binding capacity and iron binding capacity (Kurniati, 2020).

From the diagnosis results which showed that there were 10 patients (14%) who were anemic with other diseases undergoing inpatient treatment at Gunung Jati Hospital, Cirebon City, including 8 patients (11%) with kidney failure and 2 patients (3%) with hypertension. . Meanwhile, anemia without other diseases was 63 patients (86%). So the majority of anemia patients are anemia patients without other diseases which can be seen in table 9 and figure 8.

Chronic kidney disease (CKD) usually has a progressive nature. In this case, it shows that at a certain time there will be a decline in kidney function (the point of no return) and it will be continuous even though the rate of lesion precedes the stage of kidney damage that disappears. CKD also usually accompanies various complications, such as cardiovascular disease, blood vessel disease, respiratory disease, digestive tract disease, muscle and bone disorders, and anemia (Hidayat, et al., 2016).

Damage to kidney function and structure can occur in connection with a decrease in GFR. reduction in glomerular filtration rate refers to what disease the patient suffers from. One of them is a decrease in hematocrit and hemoglobin levels in the blood which can also be called anemia (Hidayat, et al., 2016). Meanwhile, the relationship between anemia and hypertension is that it is stated that when the body has a minimum amount of hemoglobin, the body will experience a lack of oxygen which can trigger an increase in heart function. This means that blood pressure that is already high will be increased again in a situation where the body experiences a lack of hemoglobin causing the body to lack oxygen, triggering a reflex in the form of heart action that increases blood flow, which can be called hypertension. Usually pure high blood pressure still caused by anemia can be tolerated by the body. An important problem is when prolonged anemia is caused by other diseases besides hypertension. For example, Arteriosclerosis. This means that already high blood pressure is made worse by anemia. Ultimately it will cause heart fatigue, coronary block (Hendrata and Lefrant, 2016).

Drug use is the determination of drugs used as therapy in anemia patients with other diseases that accompany the patient. From the results of observations, it was found that 54 people (74%) used anemia medication for inpatient treatment at Gunung Jati Hospital, Cirebon City, 17 people (23%) used a combination of 2 drugs and 2 people combined 4 drugs (3%). So it can be seen from table 11 and figure 10 that the most frequently used anemia medication is a single anemia medication. Anemic patients with other diseases are given additional medication based on the disease the patient suffers from. Anemic patients with other diseases, chronic kidney failure, were added to the drugs bicnat and kalitake in 8 patients (11%). Meanwhile, in 2 patients (3%) who were anemic with other diseases, hypertension, Concor was added, which can be seen from Figure 11.

Based on the results of observations carried out by anemia patients who underwent inpatient treatment at RSD Gunung Jati, Cirebon City, the drug classes used were 36 (38%) multivitamin drugs, 33 (34%) hemostatics, 20 (21%) neurotropic vitamins and 20 (21%) neurotropic vitamins. iron preparation group as many as 7 (7%). Where the mechanism of each multivitamin drug works by helping the body produce and maintain the formation of new cells, as well as helping prevent changes in DNA. A class of haemostatic drugs to form gamma-carboxyglutamate (Gla) residues during the

manufacture of clotting factors. The presence of two carboxylic acid groups on one carbon in the gamma-carboxyglutamate residue allows chelation of calcium ions. Binding of calcium ions in this way is very important in vitamin K-dependent clotting factors, allowing the continuation of the clotting cascade. The function of the neurotropic drug class is to stabilize the function of the nerves in correcting disorders of nervous metabolism by providing the necessary intake. Meanwhile, iron preparations work to produce red blood cells. The class of anti-anemia drugs most frequently used at RSD Gunung Jati, Cirebon City for the period January-December 2022 is the multivitamin class of drugs. This can be reviewed through table 11 and figure 11.

The use of this drug is said to be rational according to WHO if the patient gets the right drug based on clinical needs with a dose that meets the needs within a sufficient duration of time and at a cost that can be afforded by the community and individuals (Silaban, 2022). Rational use of medicines is interpreted as one of the steps that supports national policies to obtain quality health services in every hospital, health center and other health services. Increasing the rational use of drugs in pharmaceutical services in health service facilities by increasing understanding and rational use of drugs and supporting optimal and quality health services.

Appropriate indication is defined as administering medication based on an indication of a symptom and also a diagnosis of anemia. The use of anemia medication for this patient during anemia treatment at RSD Gunung Jati, Cirebon City shows that there is a 100% correct indication which can be reviewed in table 12 and figure 12. This shows that the medication is in accordance with the prescription given by the doctor based on the patient's symptoms and diagnosis. anemia. The correct indication for using this drug can be said to be correct if there is a correct indication of the symptoms of anemia and is proven by a doctor's diagnosis and also the use of a drug whose therapeutic benefits have been proven (Rabie, 2019). By giving iron for example. Iron is a vitamin or supplement indicated for preventing and treating iron deficiency anemia.

Correct diagnosis is the correct diagnosis of the disease diagnosed by the doctor to the patient. This research carried out diagnostic measurements by referring to the patient's historical data listed in the patient's medical record. Based on the results of observations, it was found that there were 100% correct indications which can be reviewed in table 13 and figure 13. The accuracy of the diagnosis of anemia medication in anemia patients as recorded in the medical record shows that the results of the diagnosis given were in accordance with the condition experienced by the patient. Where drug use is said to be rational if it is given based on the correct diagnosis. If the diagnosis determined is wrong then the drug chosen is also based on the wrong diagnosis too. This results in the medication given not being in accordance with the indications suffered (Widyawati, et al., 2020). The decision to carry out efforts to provide this therapy is determined after establishing the correct diagnosis. Therefore, the prescribed drug must have the same therapy as the disease spectrum. Choosing the right treatment depends on the decision and cause of drug use which is carried out after determining the correct diagnosis (Ministry of Health of the Republic of Indonesia, 2011; Rabie, 2019).

The use of anemia medication in anemia patients undergoing inpatient treatment at RSD Gunung Jati, Cirebon City shows 100% correct medication which can be reviewed in Figure 14 and Table 14. The medication prescribed is based on the patient's diagnosis of anemia. Patients with a diagnosis of folate deficiency are given folic acid medication, iron deficiencies are given ferrous sulfos or feniurus sulfate while patients with acute anemia are given vitamin K and neurotropic vitamins. Anemic patients with other diseases, kidney failure, are given the drug bicnat, while anemic patients with other diseases, hypertension, are given furosemide or concor. In fulfilling the right aspect, the choice of drug is made after establishing the correct diagnosis. This means that the drug chosen must be in accordance with the spectrum of effects of the disease (Ministry of Health, 2011; Rabie, 2019). The patient's irrationality regarding this treatment will result in an increase in the cost of healing services. This irrational medication can have detrimental effects that could result in a reduction in the quality of health services (Koniah, et al., 2021).

The correct dose is determining the frequency and dose based on Folic acid deficiency, normochromic normocytic anemia, and Pharmacotherapy A Pathopsychologic Approach (Iron Deficiency) standards. The accuracy of this dose is then analyzed based on laboratory data, the dose

of the drug used, and also the frequency of use. The results of research on the use of anemia drugs in anemia patients at RSD Gunung Jati, Cirebon City show that 95% of the doses are correct and 5% of the doses are incorrect, which can be seen in table 15 and figure 15. With regard to the correct dose, the drug used must be in accordance with the spectrum. the drug treatment. Drugs have pharmacokinetic and pharmacodynamic properties. This influences the therapeutic effect of the drug and drug levels in the blood. The dosage must also be adjusted to the patient's condition in terms of certain disorders, body weight and age. People's responses to a drug vary. Even though iron supplements have good benefits for the body, supplements can have side effects. These side effects usually include darker stools, abdominal pain, cramps, nausea and constipation (Rusli, 2016). Overdose on supplements is also very dangerous and can result in death. The main signs of an iron overdose are fatigue, weakness, pale nails and skin, stomach cramps, diarrhea and severe vomiting. The dosage of dietary supplements depends on the severity of the iron deficiency as well as the health problem. Adjustments to this dose can be made again after a certain period of use and examination of iron levels in the body has been completed. Supplement doses for children must also be adjusted to suit the western part of the body.

The results of the rationality evaluation obtained in this study show that the administration of drugs based on correct indications, correct diagnosis, correct medication has fulfilled the rational requirements by obtaining a percentage of 100%. However, at the right dose, there were patients who received the drug in an inappropriate dose, so that at the right dose, the result was that out of a total of 73 patients who received the drug at the right dose, there were 69 patients (95%). Meanwhile, 4 patients (5%) did not have the correct dose, which can be seen in Figure 16. The results of the analysis carried out in this research show that the use of anemia medication at Gunung Jati Hospital, Cirebon City has met the rational requirements for anemia medication. Based on the analysis above, the use of anemia medication at Gunung Jati Hospital, Cirebon City for anemia patients has a significant rationality value with indicators of 100% correct indication, 100% correct diagnosis, 100% correct drug and 95% correct dose and Asymp value. The sign is 0.000, which means there is a significant influence on the rationality variable.

4. CONCLUSION

Based on the results of the research carried out, it can be concluded that the majority of anemia patients at RSD Gunung Jati, Cirebon City are in the elderly age category 55%, 51% female and 48% elementary school education level. The use of anemia drugs folic acid, ferrous sulfos and vitamin K at RSD Gunung Jati Cirebon City met the inclusion criteria, rationality significantly (69 patients or 95%). Evaluation of the accuracy of using anemia medication in anemia patients at RSD Gunung Jati, Cirebon City has been declared rational by obtaining 100% correct indication, 100% correct diagnosis, 100% correct drug and 95% correct dose. The results of statistical analysis state that it has a meaningful rationality value .

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Evaluation Of The Rationality Of The Use Of Anemia Drugs In Anemia Patients In Rsd Gunung Jati Cirebon City For The Period January-December 2022. Miftahul Janah, et.al

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