

Packed Red Cell (PRC) Blood Needs on Thalassemia Patients at Hospital. Moewardi in October-December 2021

¹Amellia Kemastha, ²Syarifah, ³Kunti Dewi Saraswati

^{1,2,3}D3 Blood Bank Technology AKBARA Polytechnic Surakarta, Indonesia
Corresponding email: ameliakamsta@gmail.com

Abstract:

Patients with thalassemia disease in Indonesia are classified as high, this is indicated by the fulfillment of the need for blood transfusions that are carried out regularly so as to create a balance between supply and demand. To describe the fulfillment of PRC needs in thalassemia patients at the hospital. Moewardi in October-December 2021. Descriptive research with a quantitative approach and cross-sectional research design. The research population was 222 requests by random sampling. Data collection using secondary data processed using SPSS and Microsoft Excel. Univariate data analysis in the form of tables, diagrams and descriptions. Amount of fulfillment in October-December 2021 was 222 patients. By gender 118 (53.2%) patients and male 104 (46.8%) patients. Fulfillment of needs with blood type A positive 61 (27.5%), B positive 54 (24.3%), O positive 88 (39.6%), AB positive 19 (8.6%). Based on age with a range of 1-10 years 119 (53.6%), 11-20 years 71 (32.0%), 21-34 years 28 (12.6%), 35 years 4 (1.8%). Most of the needs were met by female sex as many as 118 patients with positive rhesus blood type and dominated by the age of 1-10 years.

Keywords:

Thalassemia, Packed Red Cell (PRC)

JEL: I10, I14, I18

INTRODUCTION

The incidence rate of blood needs in Indonesia The minimum need for blood in Indonesia has reached around 5.2 million bags per year or 2% of the total population, while the current supply of blood and its components is only 4.7 million bags. Indonesia still lacks a national blood supply of around 500 thousand blood bags (Ministry of Health of the Republic of Indonesia, 2019). (Alamsyah, 2018) explained that in general the use of *Packed Red Cells* (PRC) for anemic patients who are not accompanied by a decrease in blood volume, for example patients with thalassemia hemolytic anemia, acute leukemia, chronic leukemia, malignancy, chronic kidney failure.

The World Health Organization (WHO) estimates that around 7% of the global population (80 to 90 million people) are carriers of β -thalassemia, with most of them occurring in developing countries. Data in Indonesia states that this genetic disease is the 2nd most frequently found among other genetic diseases, with the prevalence of carriers of the Thalassemia gene spread between 3-10% in various regions (Rujito, 2020).

Therefore (Mustopa et al., 2020) explained that thalassemia sufferers must undergo regular and routine blood transfusions to maintain the health and stamina of thalassemia sufferers, so that sufferers can still carry out activities. Transfusion will provide new energy to the patient because the blood from the transfusion has normal hemoglobin levels that are able to meet the needs of the patient's body. Patients with thalassemia need blood transfusions because the hemoglobin of thalassemia sufferers does not produce enough α or β proteins so that the hemoglobin formed is reduced and the red blood cells are easily damaged.

METHODOLOGY

The method used in this research is descriptive research *with a cross sectional approach*. The population used in this research were all Thalassemia patients at Moewardi

Hospital from October to December 2021 with a total population of 498 patients. The sampling technique in this study was *random sampling* using the Slovin formula. The sample of this research is Thalassemia patients at Moewardi Hospital from October to December 2021 with a total population of 222 patients.

The variable in this study is a single variable. In this study using data collection techniques in the form of secondary data. Secondary data in this study is in the form of data on Fulfillment of Packed Red Cell (PRC) Blood Needs in Thalassemia Patients at the Hospital. Moewardi in October-December 2021. The instruments used in this research are Recap book of patient blood requests at the hospital. Moewardi in October-December 2021 .

The data obtained from secondary data collection is then processed using a statistical program. Data processing techniques in this study are: *data editing, data coding, data entry, data cleaning, and tabulating data*. The research data uses *univariate analysis* which is presented in the form of a frequency distribution table. This research was conducted in RS. Moewardi. This research was conducted from December 2021 to July 2022.

RESULT & DISCUSSION

This research was carried out using secondary data samples taken from the patient's blood request recap book at the hospital. Moewardi in October-December 2021. The data is then grouped based on several categories including: gender, blood type, and age.

1. Presentation of Data Based on Gender Category

Fulfillment of *Packed Red Cell* (PRC) of 118 or 53.2% of them were patients with female sex. Meanwhile, there were 104 patients with male sex or 46.8% of patients. From the results of the study it was found that many of the patients who needed *Packed Red Cell* (PRC) blood components were female, namely 118 patients. This study is in line with the results of Irdawati et al.'s research showing that the majority of children with thalassemia are female (66.7%). So, the demand for *Packed Red Cell* (PRC) components based on female patients is greater, because *Packed Red Cell* (PRC) components are usually given to patients with a diagnosis of slow bleeding, patients with anemia, heart disorders and thalassemia.



Figure 1. Gender Category

Tabel 1. Gender Category

Gender	Frequency	Percentage (%)
Woman	118	53,2
Man	104	46,8
Total	222	100

2. Presentation of Data Based on Blood Group Categories

There were 61 patients with blood type A positive rhesus, B rhesus positive in 54 patients, O rhesus positive in 88 patients, and AB rhesus positive in 19 patients. Based on the data, the results showed that the O Rh positive blood group dominated the fulfillment of blood components (PRC) with a frequency of 88 patients, while the AB Rhesus Positive blood group was the least requested, namely 19 requests. According to data from the American Red Cross, blood type O Rhesus Positive is the most common blood type in the world.

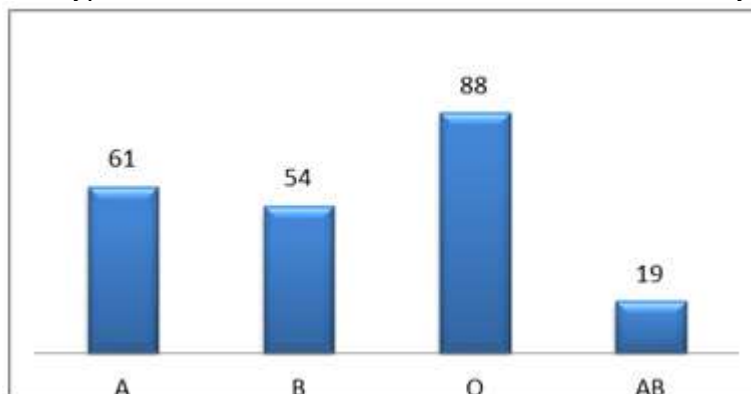


Figure 2. Age Category

Tabel 2. Age Category

Blood group	Frequency	Percentage (%)
A positive rhesus	61	27,5
B rhesus positive	54	24,3
O rhesus positive	88	39,6
AB rhesus positive	19	8,6
Total	222	100

3. Presentation of Data Based on Age Category

Range 1-10 years numbered 119 or 53.6% of patients, age range 11-20 years numbered 71 or 32.0% of patients, age range 21-34 years numbered 28 or 12.6 % patients, age range ≥ 35 years 4 or 1.8 % of patients. So from these data the results obtained the majority of patients with Thalassemia in the hospital. Moewardi in the age range 1-10 years as many as 119 patients. In Afifah., et al's research, it was said that the most age group with thalassemia was in the age group 6-10 years with a percentage (46.6%), and the age group 1-5 years with a percentage (26.7%). Basically, thalassemia can affect all age groups.

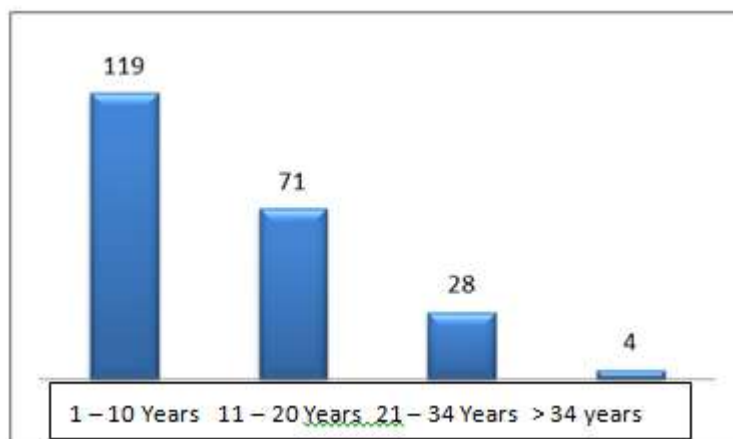


Figure 3. Age

Tabel 3. Age

Age	Frequency	Percentage (%)
1 – 10 years	119	53,6
11–20 years	71	32,0
21 – 34 years	28	12,6
≥ 35 years	4	1,8
Total	222	100

CONCLUSION

Based on research what researchers have done, it can be concluded that the fulfillment of Packed Red Cell (PRC) blood needs in RS. Moewardi in October-December 2021, namely fulfillment based on gender, namely women, on blood type, there are more O Rhesus positive blood groups and the age range that dominates 1-10 years.

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