INDOGENIUS

ISSN 2828-1365

Special Issue (2025) : 223 – 230

Application of Blood Transfusion Therapy in Postpartum Patients with Anemia in the Mawar Nifas Room at Kardinah Regional General Hospital, Tegal City

Rully Atmaliya[1], Endah Sari Purbaningsih[1], Erida Fadila[1]
[1]*Institut Teknologi dan Kesehatan Mahardika, Cirebon, Indonesia*

Article Info

Keywords :
Anemia, Post Partum, Blood Transfusion

Corresponding Author :
Rully Atmaliya
E-mail :
rullyatmaliya@gmail.com
Phone Number : 087734262071

ABSTRACT

Background & Objective: Iron deficiency anemia is anemia caused by a lack of iron used for hemoglobin synthesis. General symptoms of anemia include weakness, signs of hyperdynamic state with strong and rapid pulse, and palpitations. Blood transfusion is known to have the potential to overcome anemia, especially anemia in postpartum mothers. **Method:** This study employed a qualitative approach using a maternal nursing care approach and documented nursing care for anemia patients in the Mawar Postpartum Ward at Kardinah General Hospital in Tegal City. The intervention innovation implemented was the administration of blood transfusion therapy. **Result:** After continuous blood transfusion for 3 days, the patient showed a decrease in hemoglobin intensity from 7.4 g/dL to 9.0 g/dL. The patient also felt more emotionally calm, with improved dizziness and heart palpitations, and was able to perform activities. **Conclusion:** Blood transfusion is effective as an additional intervention for managing postpartum anemia patients. This approach also supports maternal nursing practices in improving the quality of care for anemia patients.

DOI: https://doi.org/10.56359/igj.v4i2A.707
This work is licensed under a Creative Commons Attribution 4.0 International License

Introduction

Anemia is a condition characterized by a decrease in hemoglobin in the body. Hemoglobin is a metalloprotein, which is a protein containing iron in red blood cells that functions as a transporter of oxygen from the lungs to the entire body. Iron deficiency anemia is anemia caused by a lack of iron used for hemoglobin (Hb) synthesis. The general symptoms of anemia include weakness, signs of hyperdynamism (strong and rapid pulse, palpitations, and ringing in the ears). Several factors can contribute to iron-deficiency anemia, including increased demand,

inadequate iron intake, infections, and gastrointestinal bleeding, as well as other factors (Resti Tri Ambarwati, 2023).

According to the 2018 Riskesdas survey, the prevalence of anemia in Indonesia among postpartum women was 54.8%, 26.8% among those aged 5–14 years, and 32% among those aged 15–24 years. The prevalence of anemia among postpartum women in Central Java was 56%. Meanwhile, the prevalence of anemia among postpartum mothers in Tegal Regency reached 13.6%. Approximately 40% of maternal deaths in developing countries are related to anemia during pregnancy, caused by iron deficiency and acute bleeding. Pregnant women with iron deficiency account for 35-75% of cases, and this percentage increases as the pregnancy progresses.

During lactation, this can lead to the uterus failing to contract properly due to insufficient oxygen supply from the blood. Anemia during the postpartum period can occur in postpartum women, where hemoglobin levels are below normal after childbirth, and this condition can result in iron loss and have adverse effects (Islah Wahyuni, 2019 in Miranti Restiana, 2024). Anemia is not a specific condition but can be caused by various pathological and physiological reactions. Mild to moderate anemia may not cause objective symptoms, but it can progress to severe anemia with symptoms such as fatigue, tachypnea, shortness of breath during activity, tachycardia, cardiac dilation, and heart failure (Amalia, 2016 in Hernowo Anggoro Wasono et al., 2021).

Anemia is the most significant public health issue worldwide, particularly among women of reproductive age. Anemia in women of reproductive age can cause fatigue, weakness, and reduced cardiac capacity/function or productivity (Astriana, 2017 in Hernowo Anggoro Wasono et al., 2021).

Postpartum anemia is defined as a hemoglobin level <12 g/dL in the first week postpartum and <12 g/dL in the eighth week postpartum. This condition occurs when the number of red blood cells does not meet the body's physiological needs due to iron deficiency, vitamin B12 deficiency, vitamin A deficiency, acute or chronic inflammation, parasitic infections, or congenital abnormalities. Iron deficiency anemia occurs when iron deficiency is severe enough to disrupt erythropoiesis and cause anemia. This condition causes weakness, making it difficult to perform daily activities (Lailla et al., 2021, in Fauzan Zulqifni, 2022).

Efforts to manage anemia include identifying the underlying causes and providing iron replacement therapy, either orally or parenterally, such as administering blood transfusions to anemic patients. Iron supplementation is necessary to improve hemoglobin levels, replenish iron stores in the body, and enhance tissue perfusion (Kapoh et al., 2021 in Fauzan Zulqifni, 2022).

One management approach for anemic patients involves administering blood transfusions. The primary principle in managing anemia is to administer blood transfusions when indicated and provide iron supplements (Arya et al., 2021). For effective non-pharmacological therapy, it is important to increase intake of nutrient-rich foods high in iron, both from animal and plant sources. Animal-based foods that can be consumed include meat, fish, chicken, liver, and eggs, while plant-based foods include dark green vegetables, legumes, and tempeh. Additionally, iron intake should be supplemented by consuming iron tablets (TTD) (Fauzan Zulqifni, 2022).

Blood transfusion is the process of transferring or administering blood from one person (donor) to another (recipient). The purpose of transfusion is to replace blood lost due to bleeding, burns, address shock, and maintain the body's resistance to

infection. Generally, blood transfusion aims to restore and maintain normal blood circulation volume, replace deficient blood cellular components, improve tissue oxygenation, and enhance the body's homeostasis function (Setyati, 2010 in Febry Aplorina Lima, 2020).

Every blood product that is transfused carries the risk of immediate or delayed side effects. Doctors who prescribe transfusions must be careful to follow the established criteria. Indications for transfusion must be documented in the medical record. Patients/families must be informed about possible side effects; therefore, blood transfusions must be administered and carried out in accordance with Standard Operating Procedures (SOP) (Kiswari, 2014 in Nova Yustisia, 2020).

Before blood is administered to the patient, a pre-transfusion examination is conducted. This pre-transfusion examination includes blood typing and cross-matching. Blood transfusions are administered by a physician according to indications, and the transfused blood may be whole blood or blood components (Rudina Azimata Rosyidah et al., 2023). Blood transfusion is a therapy involving the administration of whole blood or blood components such as plasma, red blood cells, or platelets via an IV line (Kiswari, 2014 in Febry Aplorina Lima, 2020).

Blood transfusion is effective in increasing or improving hemoglobin levels in anemic patients. This is consistent with research conducted by Fauzan Zulqifni and Made Suandika. In 2022, the study was titled "Blood transfusion as an effort to improve tissue perfusion in anemic patients." The results of the nursing evaluation after three days of nursing intervention showed that the nursing issue of ineffective peripheral perfusion related to decreased hemoglobin concentration was resolved. This was indicated by a change in hemoglobin levels, showing an increase to 9.5 g/dL from the previous 6 g/dL.

Based on the above description, the researcher was interested in compiling a final project report on "The Application of Blood Transfusion Therapy in Postpartum Patients with Anemia in the Mawar Nifas Room of Kardinah Regional General Hospital, Tegal City."

Objective

Based on this, the author is interested in conducting this study with the aim of determining the application of blood transfusion therapy in postpartum women with anemia in the postpartum ward of Kardinah Regional General Hospital in Tegal.

Method

This study employs a descriptive research design with a case study approach. The case study was conducted by collecting data according to the nursing process, which includes assessment, determining nursing diagnoses, developing nursing interventions, implementing nursing actions, and evaluation. The research subjects in this study were patients with anemia who complained of dizziness, palpitations, and low hemoglobin levels. Data collection in this study was conducted using interviews, observations, and documentation in the form of nursing care reports.

Results

The patient, identified as Mrs. R, is a 22-year-old female with a high school education and employed as a housewife. She resides at Karanganyar RT 12/RW 05, Bojonegoro, Tegal City. The patient was admitted on December 21, 2024. At the time

of assessment, the patient was on her second day of hospitalization in the Mawar Nifas Ward of Kardinah General Hospital. The patient has blood type B+ and is of the Islamic faith. The patient arrived at the emergency room on December 21, 2024, with the reason for admission being rupture of membranes. The patient was immediately transferred to the delivery room, and after a normal delivery, she was transferred to the Mawar Nifas Ward.

The assessment conducted on Monday, December 23, 2024, revealed that the patient had given birth to her first child, a girl. The patient had never experienced a miscarriage. The patient became aware of her pregnancy at two months gestation, characterized by symptoms such as nausea, dizziness, and vomiting. The patient married in 2023, with two children planned. The child born was in line with expectations. The patient was admitted to the Mawar Postpartum Ward at Kardinah General Hospital in Tegal City due to postpartum complications. During pregnancy, the patient rarely took iron supplements, so during childbirth, she experienced significant bleeding and a decrease in hemoglobin levels, leading to symptoms of anemia such as dizziness, a sensation of spinning, intermittent dizziness, and a racing heartbeat. The patient also complained of pain at the incision site, making it difficult for her to perform daily activities.

On physical examination, the patient was found to have an IV infusion of 0.9% NaCl on her left hand. Vital signs were recorded as follows: BP: 100/85 mmHg, HR: 80 beats per minute, Temperature: 36.2°C, RR: 22 breaths per minute, MAP: 90 mmHg, SpO2: 97%. The patient was conscious and alert.

In the patient's gynecological history, menstruation began at age 15, lasting one week, with a normal and regular menstrual cycle. There was no dysmenorrhea, the blood was dark red, odorless, non-clotting, and not excessive. The last menstrual period (LMP) was in December, with an estimated delivery date (EDD) of the 25th. The patient married in 2023 in her first marriage. The patient is not using any contraception, and she is planning to have two children. In her obstetric history, the patient gave birth to her first child on December 21, 2024, at 9 months of pregnancy, via normal delivery, a female weighing 2.5 kg in good condition. The patient has never experienced a miscarriage. The client felt pregnant at 2 months of gestation with complaints of abdominal pain, nausea at 1 month of pregnancy, active fetal movement, complete immunization, and a weight gain of 10 kg (initial weight: 50 kg, post-pregnancy weight: 60 kg).

The patient is an only child with no siblings, either older or younger. She is married and has one daughter. She has never experienced a miscarriage before. The patient expressed gratitude for what Allah has given her. She identified herself as an adult woman, married, and with one child. Role: The patient is now a mother and wife, and she is happy with her role. She expressed a desire to recover quickly and return home. The patient is aware of how to breastfeed and care for the baby. The plan is for exclusive breastfeeding, and the child will be cared for at home with the family. The child's gender aligns with expectations, and the pregnancy was planned. The patient maintains good relationships with family and friends. The patient's sources of strength are Allah and her family. The patient is Muslim, and there are no beliefs or values conflicting with the current care being provided.

The delivery took place on December 21, 2024, at 5:00 AM, via normal delivery. The duration of Mrs. R's labor was from 2:00 AM to 5:00 AM, with a blood loss of 500

ml. There were no complications during delivery. The baby is a girl, weighing 2.5 kg at birth, with a height of 48 cm.

Abnormal results were found in the hemoglobin test (low) with a result of 7.4 g/dL (normal range 11.0–15.0), red blood cells (low) with a result of 2.65 × 10^6/µL (normal range 3.50–5.00), RDW (high) with a result of 19.0% (normal range 11.0–16.0), MCV (low) with a result of 58.4 fL (normal range 80.0–100.0), MCH (low) with a result of 15.9 pg (normal range 27.0–34.0), MCHC (low) with a result of 27.2 g/dL (normal range 32.0–36.0), Neutrophil% (high) with a result of 74.0% (normal range 50.0–70.0), Neutrophil# (high) with a result of 9.03 × 10^6/µL (normal range 2.00–7.00), NLR (high) with a result of 4.06 (normal range <3.13), Erythrocyte Sedimentation Rate (ESR) (high) with a result of 18 mm/hour (normal range 0–15). The patient received Ceftriaxone 3x1 to treat bacterial infection, metronidazole 3x1 to treat bacterial infection, dexketoprofen 3x1 to reduce pain, and a 250 ml whole blood transfusion to replace lost or insufficient blood.

From the theoretical review of nursing diagnoses based on the Indonesian nursing diagnosis standards in the SDKI DPP PPNI 2018 working group, this study found the following main nursing diagnoses: Ineffective Peripheral Tissue Perfusion due to decreased hemoglobin concentration and heart palpitations (D.0009).

Based on the analysis of assessment data and the establishment of nursing diagnoses, the author then developed a nursing care plan consisting of a series of established nursing interventions, including observation, therapeutic interventions, education, and collaboration.

The nursing care plan provided to the patient with anemia focused on the primary issue, which was to increase the patient's hemoglobin levels by administering a blood transfusion to restore hemoglobin to normal levels.

Upon implementation, the following results were obtained. On the third day, the nurse re-identified the nursing issue of ineffective tissue perfusion in Mrs. R. The nurse assessed vital signs and checked the patient's hemoglobin laboratory results. The results were: BP: 120/80 mmHg, HR: 88 beats per minute, RR: 22 breaths per minute, temperature: 36.6°C, SpO2: 98%. The hemoglobin level was 10.8 g/dL.

The nursing evaluation was conducted using the SOAP approach (Subjective, Objective, Assessment, Plan), which helps nurses assess the patient's condition comprehensively based on the interventions provided. This evaluation is important to determine the extent to which nursing interventions have affected the patient's condition and to decide whether the interventions should be continued, modified, or discontinued.

In general, the evaluation showed that most nursing interventions yielded good results and had a direct impact on improving the patient's comfort and physical and psychological condition. The evaluation stage was conducted over 3 days, with the result that peripheral tissue perfusion was ineffective due to a decrease in hemoglobin concentration and a feeling of palpitations. On the third day after the nursing intervention was implemented, the nursing problem of ineffective peripheral tissue perfusion was resolved.

Discussion

In this study, the researchers applied a blood transfusion intervention in patients with anemia, which is in line with several other studies, as follows:

A study by Fauzan Zulqifni and Made Suandika in 2022 entitled "*Blood transfusion as an effort to improve tissue perfusion in patients with anemia.*" The results of nursing evaluations conducted three days after the nursing intervention showed that the nursing issue of ineffective peripheral perfusion related to decreased hemoglobin concentration was resolved. This was indicated by a change in hemoglobin levels, showing an increase to 9.5 g/dL from the previous 6 g/dL.

The study conducted by Ditaellyana Artha and I Kadek Artika Dwipayana in 2020, titled "*The Outcome of Hemoglobin Level Improvement in Anemic Patients Transfused with Packed Red Cells and Whole Blood at Polewali Mandar District General Hospital*." From the study conducted, a total of 10 samples met the criteria, consisting of 5 Packed Red Cell (PRC) samples and 5 Whole Blood (WB) samples. The results of the study, conducted with 10 samples, showed that the average increase in hemoglobin (Hb) levels in anemic patients after transfusion with Packed Red Cells was 0.98 g/dL, while the average increase in hemoglobin (Hb) levels after Whole Blood transfusion was 0.54 g/dL.

The study was conducted by Resti Tri Ambarwati and Rita Ayu Yolandia in 2023 with the title "*The Relationship between Health Education, Iron Tablet Consumption, and Dietary Patterns with the Incidence of Anemia in Postpartum Women.*" This study used a quantitative descriptive research design with a cross-sectional approach. The study was conducted in the Warungkiara sub-district from August to September 2022. The study population consisted of 30 postpartum women who gave birth at the PONED Warungkiara Health Center. This study used the chi-square test. The relationship between health counseling and the incidence of anemia had a p-value <0.05, specifically 0.045, and an OR of 2.273. The relationship between compliance with iron tablet consumption and the incidence of anemia had a p-value <0.05, specifically 0.001, and an RR of 0.273. The relationship between dietary patterns and the occurrence of anemia had a p-value <0.05 (0.024) and an OR of 6.111.

Based on the above studies, the use of blood transfusion therapy has been proven effective in increasing hemoglobin levels in postpartum anemia patients. This intervention can be used as a safe and effective non-pharmacological approach in maternal nursing practice to improve the quality of care for anemia patients.

Conclusion

Based on the results of a case study conducted on anemia patients undergoing treatment at Kardinah General Hospital in Tegal City, it can be concluded that the implementation of blood transfusion therapy has a positive impact in reducing some of the complaints experienced by patients. Some of the symptoms experienced by patients, such as dizziness and a racing heart, are among the most common symptoms in anemia patients. These symptoms are particularly disruptive for postpartum patients, as they can affect lactation, appetite, nutrient intake, emotional well-being, and overall comfort.

References

Ditaellyana Artha, I Kadek Artika Dwipayana. 2020. *Gambaran Hasil Peningkatan Kadar Hemoglobin Pada Pasien Anemia Yang Di Transfusi Dengan Packed Red Cell Dan Whole Blood Di Rsud Kabupaten Polewali Mandar*. Jurnal Media Laboran, Volume 10, Nomor 2.

Emuliana Sulpat, dkk. 2024. *Kejadian Anemia Kehamilan Dengan Perdarahan Postpartum.* Jurnal Keperawatan Muhammadiyah.

Endang Yuliani. 2020. *Hubungan Riwayat Anemia saat Kehamilan dengan Kejadian Anemia Postpartum pada Ibu Nifas*. Jurnal Kebidanan. Vol 12. N0 2. E-ISSN: 2714-7886.

Fauzan Zulqifni,dkk. 2022. *Pemberian Transfusi Darah Sebagai Upaya Peningkatan Perfusi Jaringan Pada Pasien Anemia.* Jurnal Inovasi Penelitian. ISSN 2722-9467.

Febry Aplorina Lima. 2020. *Efektifitas Pemberian Transfusi Darah Untuk Meningkatkan Perfusi Jaringan Perifer Akibat Anemia Di Ruang Teratai Rsud Prof Dr W.Z Johannes Kupang.*

Haryati Astuti,dkk. 2023. *Buku Keperawatan Maternitas Antenatal Care*. ISBN-978-623-151-467-7

Indah Rafika Amin, dkk. 2021. *Upaya Unit Transfusi Darah Palang Merah Indonesia Kota Malang Dalam Memotivasi Partisipasi Masyarakat Untuk Pendonoran Darah Selama Pandemi Covid-19*. Jurnal Respon Publik. ISSN: 2302-8432.

Islah Wahyuni. 2020. *Hubungan Kepatuhan Konsumsi Tablet Fe Dengan Kejadian Anemia Pada Ibu Post Partum di Wilayah Kerja Puskesmas Payung Sekaki Pekanbaru.* Jurnal Medika Usada. Vol 2. No 2. E-ISSN: 2614-5685.

Julia Fitriany,dkk. 2020. *Anemia Defisiensi Besi*. Jurnal Averrous Vol.4 No.2.

Lailaturohmah,dkk. 2023. *Asuhan Keperawatan Maternitas. Pt Global Eksekutif Teknologi*. ISBN: 978-623-198-050-2.

Meti Sulastri,dkk. 2023. *Penatalaksanaan Anemia Pada Ibu Nifas Melalui Terapi Pemberian Buah Naga di Wilayah Kerja Puskesmas Karanganyar.* Jurnal Poltekkes Tasikmalaya.

Netty Herawati Purba,dkk. 2023. *Pengetahuan Ibu Nifas Tentang Perubahan Adaptasi Fisiologi Masa Nifas.* Jurnal Sains Kesehatan. Vol 30. No 1.

Netty Herawaty Purba. 2023. *Pengetahuan Ibu Nifas Tentang Perubahan Adaptasi Fisiologi masa Nifas.* Jurnal Sains Kesehatan.Vol 30. No 1.

Nova Yustisia,dkk. 2020. *Studi Kualitatif Prosedur Pemasangan Transfusi Darah Pada Pasien Anemia.* Jurnal Keperawatan Muhammadiyah Bengkulu. Vol 08. No 1. E ISSN: 2720-958X.

Rahmi Afria,dkk. 2024. *Anemia Sedang Pada Post Partum.* Jurnal Kesehatan Siliwangi. Vol 5, No 2.

Resti Tri Ambarwati,dkk. 2023. *Hubungan Antara Penyuluhan Kesehatan, Konsumsi Tablet Fe dan Pola Makan Dengan Kejadian Anemia Pada Ibu Nifas*. Jurnal Interprofesi Kesehatan Indonesia. Vol.2, No.4. ISSN 2807-7563.

Resti Tri Ambarwati,dkk. 2023. *Hubungan antara Penyuluhan Kesehatan, Konsumsi Tablet Fe dan Pola Makan dengan Kejadian Anemia pada Ibu Nifas*. Jurnal Interprofesi Kesehatan Indonesia. Vol 2. No 4. ISSN 2807-7571.

Rudina Azimata Rosyidah,dkk. 2023. *Perbedaan Jumlah Trombosit Pasca Transfusi Thrombocyte Concentrate Dan Thrombocyte Apheresis Pada Pasien Trombositopenia*. Jurnal Kesehatan Vol 11. No 1.

Widya Astuti Lasaha,dkk. 2022. *Hubungan Anemia Dengan Kejadian Pendarahan Pada Ibu Postpartum.* Jurnal Ilmiah Mahasiswa dan Penelitian Keperawatan. Vol 2, Nomor 1.

Widya Kurniasari,dkk. 2023. *Faktor-faktor Yang Berhubungan Dengan Kejadian Anemia Pada Ibu Nifas di Rsu Islam Harapan Anda Tegal*. ISBN: 978-623-6974-86-5

Winnie Tunggal Mutika,dkk. 2023. *Pengaruh Anemia Terhadap Kejadian Pendarahan Pasca Persalinan Pada Ibu Bersalin.* Jurnal Kesehatan Masyarakat. Vol 11. No 2.

Yocki Yuanti,dkk. 2021. *Kontribusi Jenis Persalinan Terhadap Kejadian Anemia Pada Ibu Post Partum.*

Yuyu Yuningsih. 2024. *Hubungan Pola Nutrisi, Anemia Dan Dukungan Keluarga Dengan Penyembuhan Luka Perineum Pada Ibu Nifas di Wilayah Kerja Puskesmas Rawat Inap Sindangbarang Kabupaten Cianjur.* e-ISSN 2807-310X. Volume 4, No 5.