

EFFECTIVENESS OF DATE PALM JUICE WITH HEMOGLOBIN LEVELS IN POSTPARTUM MOTHERS

Fajriza Ulyanisa¹, Heni Purwanti², Widya Astutik³, Chandra Sulistyorini⁴

^{1,2,3,4} Institut Teknologi Kesehatan & Sains, Program Studi Kebidanan, ITKES Wiyata Husada Samarinda

*Email correspondence: fajrizaaja@gmail.com

ABSTRAK : EFEKTIVITAS SARI KURMA DENGAN KADAR HEMOGLOBIN PADA IBU PASCA PERSALINAN

Latar Belakang : Anemia pada masa nifas adalah suatu komplikasi yang dapat terjadi pada ibu setelah melahirkan karena kadar haemoglobin kurang dari normal, Akibat dari anemia yang tidak tertangani pada ibu nifas biasa nya dapat terjadi atonia uteri, serta dapat menimbulkan perdarahan post partum yang memudahkan infeksi puerperium, pengeluaran ASI berkurang dan mudah terjadi infeksi mammae serta mengurangi persentasi kerja, Upaya pencegahan dan penanggulangan anemia ibu nifas secara non farmakologi untuk menangani anemia dapat dilakukan dengan mengkonsumsi sari kurma.

Tujuan : Penelitian untuk mengetahui pengaruh pemberian sari kurma terhadap kadar hemoglobin ibu nifas Di RSUD Akhmad Berahim.

Metode : Penelitian jenis penelitian kuantitatif dengan rancangan penelitian *Quasy Eksperimen* dengan pendekatan *pretest-posttest with control group*. Sampel sebanyak 15 responden pada masing – masing kelompok, teknik sampling yang digunakan adalah *purposive sampling*. Analisis data secara univariat dan bivariat (*Uji Paired T-Test*).

Hasil : Penelitian kadar hemoglobin ibu nifas sebelum diberikan sari kurma pada kelompok intervensi dengan *mean* 10,400 gr/dl nilai min 9,5 gr/dl dan nilai max 11,7 gr/dl, setelah setelah diberikan sari kurma dengan *mean* 11,333 gr/dl nilai min 10,5 gr/dl dan nilai max 12,4 gr/dl. Kadar hemoglobin ibu nifas pada kelompok control hari ke 1 dengan *mean* 10,473 gr/dl nilai min 9,3 gr/dl dan max 11,5 gr/d, Hari ke 14 dengan *Mean* 10,947 gr/dl nilai min 10,3 gr/dl dan nilai max 11,7 gr/dl.

Kesimpulan : Hasil uji statistik didapatkan nilai *P value* = 0,000 (<0,05) yang artinya terdapat efektivitas pemberian sari kurma dengan kenaikan kadar hemoglobin pada ibu nifas di RSUD Akhmad Berahim. Saran Diharapkan bidan dapat melaksanakan praktik kebidanan berupa pemberian KIE tentang pentingnya untuk mengkonsumsi makanan yang mengandung zat besi serta konsumsi makanan yang kaya akan gizi dan mengandung vitamin C seperti sari kurma.

Kata kunci: anemia, hemoglobin, ibu nifas, sari kurma

ABSTRACT

Background: Anemia during the puerperium is a complication that can occur in mothers after childbirth because haemoglobin levels are less than normal, As a result of untreated anemia in puerperal mothers can usually occur uterine atony, and can cause postpartum bleeding which facilitates puerperium infection, reduced milk expenditure and easy mammary infection and reduces the percentage of work, Efforts to prevent and overcome anemia of postpartum mothers in a non-pharmacological manner to deal with anemia can be done by consuming date palm essence.

Objective: Research to determine the effect of giving date palm juice on hemoglobin levels of postpartum mothers at RSUD Akhmad Berahim.

Method: Quantitative research type research with Quasy research design Experiment with pretest-posttest approach with control group. A sample of 15 respondents in each group, the sampling technique used was purposive sampling. Univariate and bivariate data analysis (Paired T-Test).

Results: Research on hemoglobin levels of postpartum mothers before being given date palm juice in the intervention group with a mean of 10,400 gr/dl min value of 9.5 gr/dl and max value of 11.7 gr/dl, after being given date palm juice with a mean of 11,333 gr/dl min value of 10.5 gr/dl and max value of 12.4 gr/dl. Hemoglobin levels of puerperal mothers in the control group day 1 with a mean of 10.473 gr/dl min value of 9.3 gr/dl and max 11.5 gr/d, Day 14 with a mean of 10.947 gr/dl min value of 10.3 gr/dl and max value of 11.7 gr/dl.

Conclusion: The results of statistical tests obtained P value = 0.000 (<0.05) which means that there is effectiveness in giving date palm juice with an increase in hemoglobin levels in postpartum mothers at Akhmad Berahim Hospital. Suggestion It is hoped that midwives can carry out midwifery practices in the form of giving IECs about the importance of consuming foods that contain iron and consumption of foods that are rich in nutrients and contain vitamin C such as date palm essence.

Keywords : anemia, hemoglobin, puerperal mother, date palm juice

INTRODUCTION

The puerperium is a period that begins after the placenta comes out and ends when the uterus recovers as before and lasts about 6 weeks. Most maternal deaths occur during the puerperium, which is 54.55%. The puerperium period that is at risk of maternal death mainly occurs in the immediate postpartum period (50%), in the early postpartum period (20%) and the latepostpartum period (5%) (Febriani & Juwita, 2021). Some deaths can be caused by bleeding after delivery. Common causes of postpartum hemorrhage are the general condition of mothers who are weak due to anemia, multiparity, postoperative measures, excessive uterine distention, maternal fatigue, labor trauma, with contraction disorders (Yasin et al., 2021).

One of the causes of postpartum hemorrhage is anemia, anemia is a condition of decreased hemoglobin, hematocrit and erythrocyte counts below normal values. In people with anemia, more often called lack of blood, red blood cell levels (hemoglobin) below normal values. The cause can be due to lack of nutrients for blood formation, such as iron, folic acid and vitamin B12. But what often happens is anemia due to iron deficiency (Student et al., 2021).

Anemia during the puerperium is a complication that can occur in mothers after childbirth because haemoglobin levels are less than normal, which can cause iron loss and can affect the lactation process and can cause the uterus not to contract (Azwar 2009; Wahyuni, 2019). Anemia in puerperal mothers can occur due to bleeding so that there is a lack of many iron elements. The need for iron increases, in the presence of bleeding, gemeli, multiparity, the older the pregnancy. Abnormal absorption or disturbed gastrointestinal tract, for example vitamin C deficiency so that Fe absorption is disrupted. Intake is lacking, for example, poor menu quality or vomiting continues. The problem is, currently many mothers are still not right in consuming Fe tablets (Kristianti, et al, 2015).

Based on a WHO report in 2020, the prevalence of postpartum anemia in developing countries ranges from 50 – 80% (Herlina, 2022). The prevalence of anemia in postpartum mothers in

Indonesia alone is 54.8% of the number of maternity mothers. (Ministry of Health RI, 2018). The problem of anemia during the puerperium is not widely studied, but estimates can be made based on the prevalence of bleeding during labor, with the opinion that blood discharge during childbirth can reduce hemoglobin levels. According to data on the gender and child profile of North Kalimantan Province, the incidence of bleeding in North Kalimantan is 42%. (Health Office & North, 2020). While the incidence of mild anemia in postpartum mothers was 51.3% and moderate anemia was 29.7% at RSUD Akhmad Berahim.

As a result of untreated anemia in postpartum mothers, bleeding can usually occur, placental retention and uterine atony (Wahyuni, 2019). and can cause postpartum bleeding which facilitates puerperium infection, reduced milk expenditure and easy mammary infection and reduces the percentage of work, both in daily housework and in caring for infants (Wijanarko, 2014).

Efforts to prevent and overcome postpartum anemia pharmacologically that can be done are such as giving Fe tablets for 4 weeks, Some researchers found that iron absorption with Vitamin C has a significant increase (Herlina, 2022). Meanwhile, non-pharmacology to treat anemia can be done by consuming date palm juice (Widowati et al., 2019).

The fruit of the date palm tree is often consumed by the community because it is high in nutrients and has great potential as a cure for various diseases (Saputri et al., 2021). Unlike most other fruits, dates are high in carbohydrates so they can provide enough energy. Some of the sugar content consists of glucose, fructose, and sucrose, although the sugar content in high dates reaches 70%, which is 70 – 73 grams per 100 grams of dry weight, the sugar content has been processed naturally and is not harmful to health (Tresno, 2023). According to (Safitri & Us, 2023) dates contain many nutrients that play a role in the formation of haemoglobin, including iron, iron contained in dates, which is 1.5 mg. Where iron becomes one of the components in the blood to

carry oxygen in the blood (Setiowati & Nuriah, 2018).

Based on research conducted by Tandja (2020) to reduce the number of anemia in postpartum can be done by increasing hemoglobin levels, one of which is by consuming date palm juice which can increase hemoglobin levels. Research by Widowati et al., (2019) showed that the average increase in respondents' hemoglobin levels after consumption of date palm juice for 10 days was 1.0 g / dL.

According to Febriani & Juwita's (2021) research, the combination of dates rich in a combination of glucose, Ca, Fe, Zn, Cu, P and niacin with palmyra which is rich in vitamins A, Na and K is able to improve hemoglobin levels in anemic patients.

In Anggeriani & Yatiliu (2020) research after the intervention was given, it was found that there was an effect of giving red guava juice and dates on increasing Hb levels in postpartum mothers with an increase in Hb levels of 0.9gr%.

Based on a preliminary study conducted at RSUD Akhmad Berahim in August-September there were 37 postpartum mothers, 18.9% postpartum mothers with normal HB 12-13 gr/dl, 51.3% postpartum mothers had mild anemia 11.0-11.9 gr/dl, 29.7% postpartum mothers who had moderate anemia 10.9-8.0 gr/dl and 5.4% postpartum mothers who had severe anemia <8.0gr/dl. For the treatment of reducing HB levels in postpartum mothers at RSUD Akhmad Berahim, it has been carried out thoroughly by distributing Fe tablets to postpartum mothers, while herbal therapy has not been carried out regularly and programmatically.

Based on the explanation above, researchers want to know the effectiveness of giving date palm juice on hemoglobin levels in postpartum mothers which will be carried out at RSUD Akhmad Berahim. This hospital was chosen as a research site because there has been no research conducted at Akhmad Berahim Hospital related to the effectiveness of giving date palm juice

on hemoglobin levels in postpartum mothers. This is seen from the factor of iron and protein content contained in date palm juice given to postpartum mothers.

RESEARCH METHODS

Type of quantitative research with the Quasy method Experiment with a pretest-posttest approach with control group. The population of this study is postpartum mothers at RSUD Akhmad Berahim from October - November 2023, there are 30 postpartum mothers. The sample used 30 respondents with purposive sampling techniques. The research was conducted at RSUD Akhmad Berahim, Samarinda. The instrument uses Inform Consent Sheet, Observation Sheet, Standard Operating Procedure (SOP) Sheet, Date Sari, Fe tablet, digital Hb measuring device. Univariate and bivariate data analysis (Paired T-Test).

RESEARCH RESULTS

Based on Table 1 above, it can be known the general characteristics of postpartum mothers at RSUD Akhmad Berahim in 2023, by looking at the most age is the age of 20-35 years as many as 24 respondents (80.0%) in the intervention group and control group, the most education is high school as many as 10 respondents (66.7%) in the intervention group and as many as 8 respondents (53.3%) in the control group, the most jobs are self-employed and IRT as many as 6 respondents (40.0%) in the intervention group and in the group control IRT as many as 8 respondents (53.3%), the most BMI is the ideal BMI as many as 14 respondents (93.3%) in the intervention group and control group, History of disease in the anemia intervention group 2 respondents (13.3%) DHF 1 respondent (6.7%) magh 5 respondents (33.3%) typhus 1 respondent (6.7%) other diseases 1 respondent (6.7%), while the history of disease in the control group is anemia as many as 6 respondents (40.0%) and 9 respondents (60.0%) have no history of disease.

Table 1
General Characteristics of Mrs. Nifas at RSUD Akhmad Berahim

| Characteristics Responden | Intervensi | | Control | |
|---------------------------|------------|--------------|----------|--------------|
| | f | P (%) | f | P (%) |
| Umur | | | | |
| < 20 years | 1 | 6.7 | - | - |
| 20-35 years | 12 | 80.0 | 12 | 80.0 |
| > 35 years | 2 | 13.3 | 3 | 20.0 |
| Education | f | P (%) | f | P (%) |
| Junior High School | 3 | 20.0 | 2 | 13.3 |

| | | | | |
|------------------------|----------|--------------|----------|--------------|
| Senior High School | 10 | 66.7 | 8 | 53.3 |
| College | 2 | 13.3 | 5 | 33.3 |
| Work | f | P (%) | f | P (%) |
| Civil Servants | 3 | 20.0 | 4 | 26.7 |
| Self employed | 6 | 40.0 | 3 | 20.0 |
| Housewife | 6 | 40.0 | 8 | 53.3 |
| IMT | f | P (%) | f | P (%) |
| Ideal | 14 | 93.3 | 14 | 93.3 |
| Not ideal | 1 | 6.7 | 1 | 6.7 |
| History Of The Disease | f | P (%) | f | P (%) |
| None | 5 | 33.3 | 9 | 60.0 |
| Anemia | 2 | 13.3 | 6 | 40.0 |
| Dbd | 1 | 6.7 | - | - |
| Magh | 5 | 33.3 | - | - |
| typhus | 1 | 6.7 | - | - |
| Others | 1 | 6.7 | - | - |

Uji Normalitas

Table 2
Uji Normalitas Shapiro-Wilk

| Hemoglobin | | N | P-Value |
|------------|--------|----|---------|
| Intervensi | Pretes | 15 | 0,624 |
| | Postes | 15 | 0,947 |
| Control | Pretes | 15 | 0,305 |
| | Postes | 15 | 0,486 |

Based on table 2 of the data normality test using shapiro-wilk, it was found that all variables in the intervention group and control group had significantly greater than $P > (0.05)$ so it was stated that the data were normally distributed.

Univariate Analysis

Hemoglobin levels of postpartum mothers before date palm juice is given

Table 3
**Hemoglobin levels of postpartum mothers before date palm juice is given
In the intervention group at RSUD Akhmad Berahim**

| Hemoglobin | N | Mean | Median | Sd | Se | Min - Max |
|------------|----|--------|--------|--------|--------|------------------|
| Pre test | 15 | 10,400 | 10,400 | 0,5868 | 0,1515 | 9,5 – 11,7 gr/dl |

From table 3 above, it can be seen that the hemoglobin levels of postpartum mothers before being given date palm juice in the intervention group at RSUD Akhmad Berahim, with a mean of 10,400 gr/dl, min value of 9.5 gr/dl and max value of 11.7 gr/dl

Hemoglobin Levels of Postpartum Mothers After Being Given Date Palm Juice

From table 4 above, it can be seen that the hemoglobin levels of postpartum mothers after being given date palm juice in the intervention group at RSUD Akhmad Berahim, with a mean of 11.333 gr/dl, min value of 10.5 gr/dl and max value of 12.4 gr/dl

Table 4
**Hemoglobin levels of postpartum mothers after being given date palm juice
In the intervention group at RSUD Akhmad Berahim**

| Hemoglobin | N | Mean | Median | Sd | Se | Min - Max |
|------------|----|--------|--------|--------|--------|-------------------|
| Post test | 15 | 11,333 | 11,300 | 0,5080 | 0,1312 | 10,5 – 12,4 gr/dl |

Hemoglobin levels of postpartum mothers on days 1 and 14 in the control group

Table 5
Hemoglobin levels of postpartum mothers on days 1 and 14 in the control group at RSUD Akhmad Berahim

| Hemoglobin | N | Mean | Median | Sd | Se | Min - Max |
|------------|----|--------|--------|--------|--------|-------------------|
| Day 1 | 15 | 10,473 | 10,600 | 0,6006 | 0,1551 | 9,3 – 11,5 gr/dl |
| Day 14 | 15 | 10,947 | 10,900 | 0,5194 | 0,1341 | 10,3 – 11,7 gr/dl |

Based on table 5 above, it can be seen that the HB levels of postpartum mothers in the control group at RSUD Akhmad Berahim, day 1 with a mean of 10.473 gr/dl min value of 9.3 gr/dl and max 11.5 gr/d. Day 14 with a mean of 10.947 gr/dl, min value of 10.3 gr/dl and max value of 11.7 gr/dl. Analisa Bivariat

Analysis of hemoglobin levels on day 1 and day 14 in the intervention and control groups

Table 6
Results of intervention and control group analysis

| Group | Variabel | N | Mean | P mean | SD | SE | P-Value |
|------------|----------|----|--------|--------|--------|--------|---------|
| Eksperimen | Pretest | 15 | 10.400 | 0,9333 | 0,3885 | 0,1003 | 0,000 |
| | Posttest | 15 | 11.333 | | | | |
| Control | Pretest | 15 | 10.473 | 0,3800 | 0,4161 | 0,1074 | 0,003 |
| | Posttest | 15 | 10.853 | | | | |

Table 6 presents the results of paired t-tests performed in the intervention and control groups. The results obtained in the experimental group were the mean pretest of 10,400 and the posttest of 11,333, so that the difference in mean was 0.9333 (10,400 – 11,333) and P value = 0.000 (<0.05) this shows that there is an influence or effectiveness of giving date juice with an increase in hemoglobin levels in postpartum mothers at Akhmad Berahim Hospital in 2023. In the control group, the results obtained were the mean pretest of 10,473 and posttest 10,853, so that the mean difference was 0.3800 (10,473 – 10,853) and P value = 0.003 (<0.05) which means that there is an effect of giving fe tablets with an increase in hemoglobin levels but

not significant for postpartum mothers at Akhmad Berahim Hospital in 2023. So it can be concluded that H₀ is rejected and H_a is accepted, which means that there is effectiveness between hemoglobin levels before and after date palm administration.

Comparative analysis of hemoglobin levels in the intervention group and the control group

Based on table 7 above, the sig value is obtained. (2-tailed) of 0.001, it can be concluded that there is a difference in average hemoglobin levels between the intervention group given date palm juice and the control group who consume Fe tablets

Table 7
Uji Independen Sampel Test

| | | t | df | Sig. (2-tailed) | Mean | SE |
|------------------|-----------------------------|-------|--------|-----------------|---------|---------|
| Selisih Kadar Hb | Equal variances assumed | 3.771 | 28 | 0.001 | 0.54667 | 0.14497 |
| | Equal variances not assumed | 3.771 | 27.731 | 0.001 | 0.54667 | 0.14497 |

Table 8
Group Statistic

| | Group | N | Mean | SD | SE |
|-------------------------|------------|----|--------|---------|---------|
| difference in Hb levels | Intervensi | 15 | 0.9267 | 0.37696 | 0.09733 |
| | Control | 15 | 0.3800 | 0.41610 | 0.10744 |

From table 8 above, it can be seen that there are mean values in the intervention group of 0.9267 and 0.3800 in the control group with a standard revision of 0.37696 in the intervention group and 0.41610 in the control group and a standard error value of 0.09733 in the intervention group and 0.10744 in the control group. This value can be interpreted as the average intervention group is higher when compared to the average control group. From this exposure, it can be concluded that there is a significant difference in hemoglobin levels in the intervention group compared to the control group.

DISCUSSION

Univariate Analysis

Kadar Hemoglobin Ibu Nifas Sebelum Diberikan Sari Kurma Pada Kelompok Intervensi Di RSUD Akhmad Berahim Tahun 2023

Hemoglobin levels of postpartum mothers before being given date palm juice in the intervention group at RSUD Akhmad Berahim with a mean of 10,400 gr/dl, min value of 9.5 gr/dl and max value of 11.7 gr/dl.

In line with research conducted by Endang Yuliani, 2020 entitled "The Relationship of History of Anemia during Pregnancy with the Incidence of Postpartum Anemia in Postpartum Mothers" postpartum anemia is defined as Hb levels < 11 g / dl 1 week postpartum and Hb < 12 g / dl 8 weeks postpartum.

In line with Prawirohardjo's theory (2016). Anemia during the puerperium is a condition where a mother after giving birth up to about 6 weeks in a pale, weak and underpowered condition, at this time complications and problems can occur in postpartum mothers such as haemoragic postpartum, uterine atony, and others.

According to researchers, anemia is a condition where the mother's hemoglobin level is below normal. Low hemoglobin content can indicate anemia, with symptoms in the form of weakness, lack of appetite, lack of energy, decreased concentration, headaches, easily infected with disease, firefly eyes, besides eyelids, lips, and nails look pale. The most common causes of anemia during the puerperium are iron deficiency and postpartum blood loss.

Hemoglobin Levels Of Postpartum Mothers After Being Given Date Palm Juice In The Intervention Group At Akhmad Berahim Hospital In 2023

Hemoglobin levels of postpartum mothers after being given date palm juice in the intervention group at Akhmad Berahim Hospital with a mean of 11.333 gr/dl, min value of 10.5 gr/dl and max value of 12.4 gr/dl.

In line with research conducted by Setiowati (2018) entitled "The Influence of Palm Extract (Phoenix Dactylifera) To Increase of Hemoglobin Level To Trimester III Trimester III Pragnant Woman", the results are known that before and after date palm juice was given, respondents who experienced hemoglobin levels increased almost entirely (93.75%) and a small part (6.25%) of hemoglobin levels did not increase.

In line with Ma'ruf's theory (2016) that dates contain sugar substances (a mixture of glucose, sucrose, and fructose), protein, fat, fiber, vitamins A, B1, B2, B12, C, potassium, calcium, iron, chlorine, copper, magnesium, sulfur, phosphorus, and several enzymes that are complete enough nutrients so as to accelerate increasing hemoglobin levels and easily metabolized by the body.

In this study, hemoglobin levels were obtained after being given an intervention using date palm juice experienced an average increase per hemoglobin respondent with a score difference of 0.2-2 g / dl on 14 days of intervention. This is because the regularity of the mother when consuming date palm juice is the cause of the increase in hemoglobin of puerperal mothers. Date palm juice is rich in content, contains components that can increase iron absorption or play a role in the formation of red blood cells where hemoglobin is located. Iron content in dates as much as 1.5 mg is good to help raise levels 1,5 mg Hb, in addition to iron, other nutrients that can help increase Hb levels, namely Vitamin C as much as 6.1 mg (Safitri & Us, 2023). According to Abu-Ouf & Jan (2015) in the absorption of iron in the body, closely related to the acidic environment that helps iron absorption, which occurs in the first and second parts of the small intestine. Therefore iron absorption is enhanced by co-administration of acidic compounds, such as vitamin C or acrobic acid.

Hemoglobin Levels Of Postpartum Mothers On Days 1 And 14 In The Control Group At Akhmad Berahim Hospital In 2023

Hemoglobin levels of postpartum mothers in the control group at RSUD Akhmad Berahim in 2023, day 1 with a mean of 10.473 gr/dl with a min value of 9.3 gr/dl and a max value of 11.5 gr/dl. Day 14 with a mean of 10.947 gr/dl with a min value of 10.3 gr/dl and a max value of 11.7 gr/dl.

This is in line with the research of Rizki et al., (2018) entitled "The Relationship of Fe Tablet Supplementation with Hemoglobin Levels in Third Trimester Pregnant Women at the Padang City Cold Water Health Center" the results showed a significant relationship between Fe tablet supplementation and hemoglobin levels in III trimester pregnant women ($p < 0.05$). In line with Yuanti's theory, (2020) iron tablets

Fe) are tablets for supplementation of nutritional anemia management containing ferrousulfate 200 mg or equivalent to 60 mg elemental iron and 0.20 mg folic acid. Iron tablet preforat consists of three components, namely: Ferrous sulfas / ferrous sulfate (dry), iron content 30%, Ferrous fumarate, iron content 33% and provides fewer side effects, Ferrous gluconas, iron content is only slightly at 11.5% and consequently causes fewer gastrointestinal effects.

In the opinion of researchers, the increase in Hb in the control group was due to the flow of puerperal mothers in consuming Fe tablets, and the food consumed by mothers during the puerperium helped absorb iron, so that when done on the 14th day Hb mothers increased.

Bivariate Analysis

Analysis of hemoglobin levels on day 1 and day 14 in the intervention and control groups

In this study, the hemoglobin levels of postpartum mothers before being given date palm juice in the intervention group at RSUD Akhmad Berahim with a mean of 10,400 gr/dl min value of 9.5 gr/dl and max value of 11.7 gr/dl, and in the control group on day 1 with a mean of 10,473 gr/dl with a min value of 9.3 gr/dl and a max value of 11.5 gr/dl. Increased hemoglobin levels of postpartum mothers after being given date palm juice in the intervention group at RSUD Akhmad Berahim with a mean of 11.333 gr/dl min value of 10.5 gr/dl and max value of 12.4 gr/dl, and in the control group day 14 with a mean of 10.947 gr/dl with a min value of 10.3 gr/dl and max value of 11.7 gr/dl.

Based on the results of data analysis from paired sample t tests in the intervention group with mean difference values of 0.9333 (10,400 – 11,333) and P value = 0.000 (<0.05) and in the control group with mean difference values of 0.3800 (10,473 – 10,853) and P value = 0.003 (<0.05) this shows that there is effectiveness of giving date palm juice with an increase in hemoglobin levels in postpartum mothers at Akhmad Berahim Hospital in 2023,

In line with the results of Setiowati's research (2018) entitled "The Influence Of Palm Extract (Phoenix Dactylifera) To Increase Of Hemoglobin Level To Trimester III Trimester Woman" The test used is an alternative test Wilcoxon Test in getting p value (Exact. Sig/2 tailed) 0.002 (<0.05) which means that there is a difference in hemoglobin levels before and after date palm juice. Therefore H_0 is rejected and H_1 is accepted which means there is an effect of date palm juice (Phoenix Dactylifera) on the increase in hemoglobin levels of III trimester pregnant women.

Based on another study conducted by Tandja (2020) entitled The effectiveness of date palm juice with an increase in hemoglobin levels in postpartum mothers at the UPT Kareng Bangkirai Health Center in Palangkaraya City. That on the effect of giving date juice with an increase in hemoglobin levels of postpartum mothers with a statistical test T-Test, with a p value of <0.05 (0.000), it can be concluded that there is an effect of giving date juice with an increase in hemoglobin levels of puerperal mothers.

Then the results of the research literature presented by Rahmawati & Silviana (2019).with the title of the effect of date consumption on the increase in hemoglobin levels: A review concluded that from the seven research results that have been conducted, there is one journal that says that there is no effect of increasing hemoglobin levels that consume dates and date juice. While other journals say the influence of consuming dates and date juice can increase hemoglobin levels. The average result of hemoglobin before being given dates is mild anemia, but after being given date juice or dates the average hemoglobin increases.

The iron content in dates as much as 1.5 mg is good for helping to increase Hb levels, in addition to iron, other nutrients that can help increase Hb levels, namely Vitamin C by 6.1 mg (Safitri & Us, 2023). Regular consumption of dates with recommended doses or doses in sufficient time can increase hemoglobin levels, because the main ingredients needed for blood formation or hemoglobin are folic acid, vitamin B12, iron, cobalt,

magnesium, zinc, amino acids, vitamin C, vitamin B complex, and others (Rahmawati & Silviana, 2019).

Comparative analysis of hemoglobin levels in the intervention group and the control group

After a comparison test using an independent t test, the mean value in the intervention group was 0.9267 and 0.3800 in the control group with a standard deviation of 0.37696 in the intervention group and 0.41610 in the control group and a standard error value of 0.09733 in the intervention group and 0.10744 in the control group. This value can be interpreted as the average intervention group is higher when compared to the average control group. And in the t test, a sig value is obtained. (2 tailed) of 0.001. From this exposure, it can be concluded that there is a significant difference in hemoglobin levels in the intervention group compared to the control group.

In line with research conducted by Setiowati (2018) entitled "The Influence of Palm Extract (Phoenix Dactylifera) To Increase of Hemoglobin Level To Trimester III Trimester III Pregnant Woman", the results are known that before and after date palm juice was given, respondents who experienced hemoglobin levels increased almost entirely (93.75%) and a small part (6.25%) of hemoglobin levels did not increase.

In line with Ma'ruf's theory (2016) that dates contain sugar substances (a mixture of glucose, sucrose, and fructose), protein, fat, fiber, vitamins A, B1, B2, B12, C, potassium, calcium, iron, chlorine, copper, magnesium, sulfur, phosphorus, and several enzymes that are complete enough nutrients so as to accelerate increasing hemoglobin levels and easily metabolized by the body.

In this study, hemoglobin levels were obtained after being given an intervention using date palm juice experienced an average increase per hemoglobin respondent with a score difference of 0.2-2 g / dl on 14 days of intervention. This is because the regularity of the mother when consuming date palm juice is the cause of the increase in hemoglobin of puerperal mothers. Date palm juice is rich in content, contains components that can increase iron absorption or play a role in the formation of red blood cells where hemoglobin is located. The iron content in dates as much as 1.5 mg is good for helping to increase Hb levels, in addition to iron, other nutrients that can help increase Hb levels, namely Vitamin C by 6.1 mg (Safitri & Us, 2023).

According to Abu-Ouf & Jan (2015) in the absorption of iron in the body, closely related to the

acidic environment that helps iron absorption, which occurs in the first and second parts of the small intestine. Therefore iron absorption is enhanced by co-administration of acidic compounds, such as vitamin C or ascorbic acid.

CONCLUSION

The results showed that the majority of fatigue experienced by mothers after childbirth was fatigue in the moderate category, caused by the new labor process and adaptation to the new role as parents. Husband support in the form of moral and material is considered to be quite good, with moral support having an important impact on the emotional condition of the mother. The motivation for breastfeeding in the first 24 hours postpartum is mostly in the moderate category, influenced by postpartum physical fatigue and husband support. There was a considerable correlation between fatigue and husband support and motivation to breastfeed in the first 24 hours, with significance values indicating a relationship between the two variables

SUGGESTION

This study is expected to provide additional insights especially for postpartum mothers suffering from anemia, by suggesting the use of date palm juice as an alternative to increase hemoglobin levels. For midwives in hospitals, midwifery practices that educate about the importance of consuming foods rich in iron and vitamin C such as date palm juice are expected to be applied. Educational institutions are expected to use the results of this research as a reference to improve the quality of midwifery care. As for the next researcher, it is recommended to control the food intake of respondents and extend the intervention time to further evaluate the effectiveness of date palm juice

REFERENCES

- Abu-Ouf, N. M., & Jan, M. M. (2015). The impact of maternal iron deficiency and iron deficiency anemia on child's health. *Saudi Med J*, 2, 146–149.
<https://doi.org/10.15537/smj.2015.2.10289>.
- Alahyane, A., Harrak, H., Elateri, I., Ayour, J., Ait-Oubahou, A., Benichou, M., & Abderrazik, M. E. (2022). Evaluation of some nutritional quality criteria of seventeen moroccan dates varieties and clones, fruits of date palm (Phoenix dactylifera L.). *Brazilian Journal of Biology*, 82, 1–12.
<https://doi.org/10.1590/1519-6984.236471>
- Anggeriani, R., & Yatiliu, M. (2020).

- Pengaruh Pemberian Jus Jambu Biji Merah dan Kurma Terhadap Peningkatan Kadar HB pada Ibu Post Partum. *Cendekia Medika*, 5(1), 16–23. <https://doi.org/10.52235/cendekiamedika.v5i1.3>
- arikunto, suharsimi. (2013). *prosedur penelitian suatu pendekatan praktik* (cetakan ke). Rineka Cipta.
- Astuti, Yuli, R., & Ertiana, D. (2018). *anemia dalam kehamilan*. CV.Pustaka abadi.
- Bakta, I. M. (2017). *hemotologi klinik ringkas*. EGC.
- Buku KIA. (2022). *Buku KIA Kesehatan Ibu dan Anak*. In *Kemertian kesehatan RI*.
- Dinas kesehatan, & Utara, provinsi kalimantan. (2020). *Laporan kinerja*.
- Endang Yuliani. (2020). Hubungan Riwayat Anemia saat Kehamilan dengan Kejadian Anemia Postpartum pada Ibu Nifas. *Embrio*, 12(2), 102–107. <https://doi.org/10.36456/embrio.v12i2.2796>
- Febriani, A., & Juwita, S. (2021). Manfaat Sari Kurma dalam Peningkatan HB Ibu Nifas di Kota Pekanbaru. *Colostrum Jurnal Kebidanan*, 2(2), 24–28.
- Herlina Elin. (2022). *PENGARUH KONSUMSI JUS JAMBU BIJI MERAH TERHADAP KADAR HEMOGLOBIN IBU POST PARTUM* [Universitas Nasional]. <http://repository.unas.ac.id/id/eprint/5927>
- Kemendes RI. (2018). Hasil Riset Kesehatan Dasar Tahun 2018. *Kemertian Kesehatan RI*, 53(9), 1689–1699.
- Kemendes, & RI. (2018). *pedoman pencegahan dan penanggulangan anemia pada remaja putri dan wanita usia subur*. <https://ayosehat.kemkes.go.id/buku-pedoman-pencegahan-dan-penanggulangan-anemia-pada-remaja-putri-dan-wanita-usia-subur>
- Kristianti, S., Asiyah, S., & Afifa, N. (2015). Kombinasi Vitamin C dan Tablet Fe Efektif Meningkatkan Kadar Hb Ibu Nifas. *Jurnal STIKES*, 6(2), 1–10.
- Linda. (2023). *baca tulis*. <https://bacatulis.com/cara-mengonsumsi-sari-kurma/>
- MA'RUF, F. (2016). *UJI EFEK ANTIMIKROBA EKSTRAK BUAH KURMA (Phoenix dactylifera) TERHADAP Salmonella typhi SECARA IN VITRO* [universitas muhammadiyah malang]. <https://eprints.umm.ac.id/23217/>
- Mulyandari, A., Juniarti, S., Kebidanan, A., Bintan, A., Hamil, I., & Rahayu, D. (2021). *40 Penyuluhan Mengenai Anemia Dan Pencegahannya Pada Ibu Hamil Wilayah Kampung Dengan Sari Kurma*. 2(02), 40–44.
- Munafiah, D., Kusyati, E., & Inayati, N. (2019). Pemberian Tablet Fe dan MAMA (Madu Kurma) Meningkatkan Kadar Hemoglobin Kehamilan Aterm dalam Persiapan Persalinan. *Prosiding Seminar Nasional Unimus*, 2(0), 26–33. <http://prosiding.unimus.ac.id/index.php/semnas/article/view/361>
- Mutiara, A. ayu. (2023). *ASUHAN KEBIDANAN PADA IBU NIFAS DENGAN ANEMIA RINGAN DI KLINIK AN-NUR HUSADA DAYA MURNI TULANG BAWANG BARAT* [poltekkes tanjung karang]. <http://repository.poltekkes-tjk.ac.id/id/eprint/1688>
- Notoatmodjo, S. (2018). *metodologi penelitian kesehatan*. Rineka Cipta.
- Novi, K. F. (2018). *Mengenal sel-sel darah & kelainan darah*. UB press.
- Penelitian, U., Politeknik, M., Sulastri, M., Nurakilah, H., Marlina, L., & Ramadhan, D. C. (2023). *MEDIA INFORMASI Penatalaksanaan Anemia Pada Ibu Nifas Melalui Terapi Pemberian Buah Naga di Wilayah Kerja Puskesmas Karanganyar*. 19, 75–79.
- Prawirohardjo, S. (2016). *asuhan nasional pelayanan kesehatan maternal & neonatal*. PT.Bina pustaka.
- Puji, L., Puri, S. E., & Prasida, D. W. (2018). *PHASE OF ACTIVE PRIMIGRAVIDA Sari kurma mengandung dan otot rahim sehingga dapat membantu mengurangi pendarahan pasca melahirkan*. *Selain*. 5(1), 1–8.
- Rahmawati, A., & Silviana, Y. (2019). Pengaruh Konsumsi Kurma (Phoenix Dactylifera) terhadap Kenaikan Kadar Hemoglobin : A Review. *Jurnal Kebidanan*, 9(1), 97–102. <https://doi.org/10.31983/jkb.v9i1.4057>
- Rizki, F., Lipoeto, N. I., & Ali, H. (2018). Hubungan Suplementasi Tablet Fe dengan Kadar Hemoglobin pada Ibu Hamil Trimester III di Puskesmas Air Dingin Kota Padang. *Jurnal Kesehatan Andalas*, 6(3), 502. <https://doi.org/10.25077/jka.v6i3.729>
- Rukiyah, & Yeyeh. (2019). *asuhan kebidanan patologi kebidanan 4*. trans infomedia.
- Safitri, M. E., & Us, H. (2023). *Pengaruh Pemberian Kurma Terhadap Peningkatan Kadar Hemoglobin Ibu Nifas di Wilayah Kerja PMB Salabiah , S . SiT Kecamatan Banda Sakti Lhokseumawe The Effect of Giving Dates on Increasing Hemoglobin Levels in Postpartum Women in the Working Area of The PM*. 9(1), 464–475.
- Saputri, R. D., Usman, A. N., Widaningsih, Y., Jafar, N., Ahmad, M., Ramadhani, S., & Dirpan, A. (2021). Date palm (Phoenix dactylifera) consumption as a nutrition source for mild anemia.

Gaceta Sanitaria, 35, S271–S274.
<https://doi.org/10.1016/j.gaceta.2021.10.032>

Setiowati, W., & Nuriah, S. (2018). Pengaruh Sari Kurma (*Phoenix Dactylifera*) terhadap Peningkatan Kadar Hemoglobin Ibu Hamil Trimester III (The Influence of Palm Extract (*Phoenix Dactylifera*) To Increase of Hemoglobin Level To Trimester III Pregnant Woman). *Jurnal Darul Azhar*, 6(1), 85–91.

Student, M. T., Kumar, R. R., Omments, R. E. C., Prajapati, A., Blockchain, T.-A., MI, A. I., Randive, P. S. N., Chaudhari, S., Barde, S., Devices, E., Mittal, S., Schmidt, M. W. M., Id, S. N. A., PREISER, W. F. E., OSTROFF, E., Choudhary, R., Bit-cell, M., In, S. S., Fullfillment, P., ...

Fellowship, W. (2021). penyuluhan tentang cara mengkonsumsi madu yang benar untuk meningkatkan kadar haemoglobin (Hb) pada ibu hamil di desa jati baru lampung selatan. *Jurnal Perak Malahayati*, 14(1), 1–13.

Sunarsih, & Yuliasari, D. (2019). *asuhan kebidanan pasca persalinan dan menyusui*. UPPM malahayati.

Suryani, & Hendryadi. (2015). *metode riset kuantitatif*. kencana.

Tandja, Y. H. (2020). The Efektivitas Sari Kurma Terhadap Peningkatan Kadar Hemoglobin Pada Ibu Nifas di Wilayah UPT Kereng Bangkirai Kota Palangka Raya. *Jurnal Skala Kesehatan*, 11(2), 74–79. <https://doi.org/10.31964/jsk.v11i2.238>