BLOSSOM JOURNAL OF MIDWIFERY

Article

EFFECT OF DATE CONSUMPTION ON INCREASING HEMOGLOBIN LEVELS IN PREGNANT WOMEN

Suci Rahmadheny[1], Rita Puspitasari[2]

[1]Diploma Porgram Of Midwifery, Prima Nusantara Bukittinggi Health Institute, Bukittinggi, Indonesia
[2]Bachelor Program Of Midwifery, Prima Nusantara Bukittinggi Health Institute, Bukittinggi, Indonesia

SUBMISSION TRACK

Recieved: January 2019
Final Revision: February, 2019
Available Online: March, 2019

KEYWORDS

Hemoglobin levels, Dates consumption, Anemia in Pregnancy

CORRESPONDENCE

Phone: +62 812-7594-4369
E-mail: suci.rahmadheny@gmail.com

A B S T R A C T

Anemia in pregnant women is a problem that can threaten the condition of the mother and fetus in the mother's womb. Anemia in pregnancy is a globalized problem. To increase hemoglobin levels in pregnant women who suffer from anemia, one of them can be done by consuming dates. This study aims to find out the effect of date consumption on increasing hemoglobin levels in pregnant women. This type of research uses pre-experiment, with the approach "pretest-posttest control group design." In "pretest-posttest control group design. This research was conducted in the work area of Mandiangin Health Center in September 2018 taken by purposive sampling technique. The results of the study obtained the average value of Hb for the group of dick was 10.159 gr/dl, and the average final Hb was 10.288 g / dl. The average Hb for the experimental group was 9.924 gr/dl, and the average Hb post-test was 10.706 gr/dl. Statistical tests showed an effect of consumption of dates on increasing hemoglobin levels in pregnant women with P-value = 0.02. Conclusion there is an effect of the influence of consumption of dates on increasing hemoglobin levels in pregnant women. For this reason, it is expected that health workers can increase knowledge about the benefits of consuming dates to increase Hb so that it can provide information for pregnant women who suffer from anemia.

I. INTRODUCTION

Anemia is a condition where the body has several cells red blood (erythrocytes) are too little, which are red blood cells it contains hemoglobin which serves to carry oxygen to all body tissues (Proverawati, 2013). Anemia in pregnant women is a problem that can be threatens the state of the mother and fetus is in the mother's womb. Anemia on pregnancy is a problem has gone global. Judging from the magnitude the thing is, anemia is the cause second leading in the world from handicap and thus wrong one public health problem most serious (WHO, 2014).

According to the World Health Organization (WHO) the incidence of anemia pregnancy globally is 51%, while anemia in women the total was 35% (Aritonang,2013). In Indonesia, nutritional anemia still exists is one of four major dietary problems, besides lacking calories, protein, vitamin A deficiency, and endemic goiter.

Based on research results Basic Health (Riskesdas) year 2013, the prevalence of anemia in pregnant women in Indonesia at 37.1%. Giving Fe tablet in Indonesia in 2012 by 85%. This percentage experienced an increase compared to 2011 which amounted to 83.3%. Although the government has implemented a program prevention of anemia in pregnant women namely by giving 90 Fe tablets to pregnant women during periods pregnant to decrease pregnant women anemia rates, but figures the incidence of anemia is still high. (Indonesian Ministry of Health, 2013).

The incidence of anemia in pregnant women in West Sumatra based on Status Monitoring Survey Nutrition (PSG) implemented by Sumatra Provincial Health Office West 2017 as much as 20.2%. The data shows that the incidence of anemia in Sumatra Province West is still relatively high and necessary get special attention from public health Office. In the city of Bukittinggi, the incident anemia in pregnant women from January to June 2018 , as much as 18.9% with details of the Puskesmas area, namely Rasimah Ahmad Health Center (4.6%)Patchouli Sari (20.2%), Bancah Gulai (15.9%), Mandiangin (32.6%), Guguak Long (6.5%), Tigo Baleh (13.7%), Mandiangin Plus (56.6%). (Health Office Bukittinggi City, 2018).

Causes of anemia in pregnant women are several things among others, the hypervolemia that occurs during pregnancy. In currently pregnant women blood volume increases by 1.5 liters. The volume increase was mainly there is an increase in plasma; is not it an increase in the number of erythrocyte cells. factors that can trigger the occurrence of anemia in pregnant women of which are according to the economy, knowledge, education, behavior,culture, ANC visits, parity, age, medical history, consumption of fe, bleeding and malnutrition (Saifuddin,2012)

To increase hemoglobin levels in pregnant women who are suffering anemia, one of which can be done by consuming dates. Dates contain real sugar in glucose and fructose, rich in

protein, fiber, minerals, such as iron, calcium, sodium, and potassium (Wahidon, 2009). Fruit dates (Phoenix dactylifera) belong to the phoenix family. Dates including types of palms such as palm oil while the fruit has a stem-like betel nut. The fruit that is characteristic of this Middle Eastern nation turns out to contain many benefits for pregnant women, childbirth, and the puerperium. In dates fruits, there is a kind of hormone (potuchsin) which works shrink the blood vessels in the uterus so that it can help shrink the uterus after childbirth while preventing uterine bleeding(Harmandini, 2013).

Dates fruit are rich in calcium and iron, necessary in the process of forming breast milk. Dates can increase the quantity of breast milk, and the baby who is breastfed will be smart. Iron levels and calcium can replace the mother's energy depleted during childbirth or breastfeeding. Iron and calcium are two crucial elective elements for the formation of blood and bone marrow (Rostita, 2009)

Research on dates was also conducted by Pravitasari (2014), namely regarding the Effects of Dates Extract (Phoenix dactilifera) on Increased Blood Hemoglobin Levels in vitro. The difference in this study was carried out on white male rats. The result is known that the date palm extract can increase Hb levels at two weeks of study (Pravitasari, 2014). A similar study by SN Onuh (2012) was conducted on 50 Winstar mice for 12 days. This research has shown that crude methanol and date palm extract (Phoenix Dactylifera) can have capable properties supports increased erythropoietin synthesis by the liver to stimulate bone marrow to produce more blood cells red / hemopoiesis (Onuh, 2012).

Based on the background above, the researcher is interested in conducted research on the effect of consumption of dates on Increased Hemoglobin Levels in Anemic Pregnant Women in the Mandiangin Health Center Work Area in 2018.

II. METHODS

It was a pre-experiment study with one group pretest-posttest. This study was carried out in September 2018 in Mandiangin public health Center. The population of this study was 61 pregnant women who experience anemia. The sample was 36 pregnant women taken by Isaac and Michael technique. The sample divide into two groups, control, and intervention. Each respondent in the intervention group was given 25 grams of fruit dates for 12 days. The measurement of hemoglobin is done twice, before consuming dated fruits and on day 13 after consuming them.

Data analysis by t-test with SPSS program to see the difference between the pretest and post-test scores with $\alpha = 0.05$ and 95% confidence interval (CI). Before using a paired T-test it is

assured that the data is normally distributed. To see the normality of the data using the Shapirowilk test (≤ 50%).

III. RESULT

Table 1. Differences in Increased Hemoglobin Levels in Intervention Group, before-after intervention

Haemoglobin	n	Mean	Standard deviation	P-value
Pre-Test	17	9.924	9.924	0.000
Post-Test	17	10.706	0,5356	

The results of the Paired Samples Test analysis showed that the p-value was obtained (Value) = 0.000 <α = 0.05, so there is a difference in the increase in hemoglobin levels in pregnant women pre-consumption of dates and post-consumption of dates in the group experiments in the Mandiangin Health Center Work Area

Table 2. Differences in Increased Hemoglobin Levels in Control Group, before-after intervention

Haemoglobin	n	Mean	Standard deviation	P-value
Pre-Test	17	10.159	0,5149	0.002
Post-Test	17	10.288	0,4526	

The results of the Paired Samples Test analysis showed that the p-value was obtained (Value) = 0.002 <α = 0.05, so there is a difference in the increase in hemoglobin levels in pregnant women in control group in the Mandiangin Health Center Work Area

Table 3. The Effect of Dates Consumption on Increased Hemoglobin Levels in Pregnant mother

Haemoglobin	n	Mean	Standard deviation	P-value
Post of control	17	10.288	0,4526	0.02
Post of intervention	17	10.706	0,5356	

Test analysis results showed that the value was obtained p (Value) = 0.02 <α = 0.05, so there is an effect of date consumption on Increased Hemoglobin Levels in Pregnant Women in the Working Area of Public Health Center Mandiangin Year 2018.

IV. DISCUSSION

According to the theory, anemia is a condition in which the body has too few red blood cells (erythrocytes), which are blood cells red blood contains hemoglobin, which functions to carry oxygen throughout the body's tissues (Proverawati, 2013).

The causes of anemia in pregnant women are several things another hypervolemia that occurs during pregnancy. In pregnant women at volume, the blood increased by 1.5 liters. The increase in volume was especially true an increase in plasma is not an increase in the number of erythrocyte cells. the factor which can lead to anemia in pregnant women including appropriate economy, knowledge, education, behavior, culture, ANC visits, parity, age, medical history, consumption of iron, bleeding and malnutrition (Saifuddin,2012).

Iron is a micromineral that is important in the process formation of red blood cells. Naturally, iron is obtained from food. Lack of iron in the daily diet can cause it nutritional anemia or what is known to the public as deficient disease blood. Metabolism is all chemical reactions that occur in organisms, including what happens at the cellular level. Metabolism of Iron Metabolism iron is primarily intended for the formation of hemoglobin. Iron is on all cells and plays an essential role in various biochemical reactions. Iron is present in the enzymes responsible for transport electron (cytochrome) for activation of oxygen in hemoglobin and myoglobin.

According to Ramali in Dewie (2013), hemoglobin is a dye in red blood cells that are useful for transporting oxygen and carbon dioxide. Hemoglobin is a protein containing the iron compound hemin. Hemoglobin has a binding power to oxygen and carbon dioxide. In carrying out its function of carrying oxygen throughout the body, hemoglobin in the RBC binding oxygen through a chemical bond specifically (Yuni, 2015). According to Yuni (2015), iron is a micro mineral essential in forming red blood cells. Iron is naturally obtained from food. Lack of iron in the daily diet can cause nutritional anemia or known to the public as a blood deficiency disease.

This study's results are in line with Nugraha's research (2015), showing that pregnant women who regularly consume iron tablet and nutritious food will increase the blood hemoglobin level. It is a cleverness to manage diet by combining menus, food and consuming fruits and vegetables that contain vitamin C at mealtime can make the body avoid anemia.

Based on the results of research conducted by SN Onuh (2012), demonstrated that crude methanol and date palm extract (Phoenix Dactylifera) can have properties capable of supporting increased synthesis erythropoietin by the liver to stimulate the bone marrow to produce more red blood cells/hemopoiesis. The amount of increase in the average hemoglobin level in pregnant

women after consuming dates for 12 days, this is also greater in comparison with consumption of red tablets for one month. This corresponds to that stated by Longgupa (2016) that iron (Fe) tablet supplements is one way that is useful in increasing levels hemoglobin (Hb) where if pregnant women are compliant with consuming substance tablets iron (Fe) every day for one month can increase hemoglobin levels 1 gr / dl.

The results of this study are in line with Pravitasari's (2014) research on dates, which is about the effect of date palm fruit extract (phoenix dactilifera) on an increase in blood hemoglobin levels indicates that in that sample given regular consumption of dates can increase blood hemoglobin levels quickly and in a group that are not given increased levels of dates hemoglobin occurs more slowly.

Based on the results of the researchers' assumptions, there is an influence on the consumption of date on blood hemoglobin levels due to dates consumed by the mother pregnant contains lots of nutrients needed by the body during the process pregnancy and can be well absorbed without causing an effect side, thereby accelerating the increase in hemoglobin levels in pregnant women, but this study could not be so high due to the short duration of giving dates for 12 days. if the consumption is longer than it, it will be more effective in increased hemoglobin in pregnant women.

V. CONCLUSION

Dates contain real sugar in glucose and fructose, rich in protein, fiber, minerals, such as iron, calcium, sodium, and potassium, so that the haemoglobin level will be increased. It is crucial to educate pregnant women to consumpt fruit dates as one of food to increase their haemoglobin level.

REFERENCES

.Arisman. (2004). Gizi Dalam daur Kehidupan.Jakarta : EGC

Anugrah, F., 2015, Pengaruh Pemberian Buah Kurma (zizibus jujuba mill). Terhadap Kadar Trambosit dan Permeabilitas Vaskuler pada mecit, Skripsi, Fakultas Kedoktoran

Bidiarti. 2009. Asuhan Kebidanan kalpikasi pada anemia. Jakarta: Salemba Medika

Dinas Kesehatan Kota Bukittinggi Tahun. 2014. Profil Kesehatan Kota Bukittinggi tahun 2015. (http://www.dinkes.palembang. go.id//) diakses pada tanggal 20 juli 2018

Dinas Kesehatan Provinsi Sumatera Barat Tahun 2015. Profil Kesehatan Provinsi Sumatera Selatan (http://www.dinkes.sumsel. go.id//) diakses pada tanggal 20 juli 2018

Depkes RI. 2012. Riset Kesehatan Dasar. Jakarta: Badan Penelitian dan Pengembangan Kesehatn Kementrian Kesehatan RI.

Harmandini, 2013, Khasiat dan Keajaiban Kurma, Buah Kurma

Khomsa A.(2004). Pangan dan Gizi untuk Kesehatan. Jakarta: Raja Grafindo Persada

Manuaba. (2007;90). Gawat Darurat Obstetri Ginekologi dan Obstetri Ginekologi Sosial Untuk Profesi Bidan. Jakarta : EGC

Marshall B. Romney, Paul John steinbart, 2006. Accounting Information System, Ninth Edition, Prentice Hall.

Manuaba, (1998). Ilmu Kebidanan, Penyakit Kandungan dan Keluarga Anemia untuk Pendidikan Bidan. (Setiawan, Eds.). Jakarta EGC

Mukhlidah, 2012: 118 dan Sulistyo, H. A., Buku Ajaran Keperawatan Pada Klien dengan Ganguan sistem Hematologi, Hal 118, Selemba Medika, Jakarta

Mansjoer, A., 2010. Asuhan Keperawatan Pada Klien Dengan Gangguan pada kehamilan. Jakarta: Salemba Medika Asuahan

Mochtar, R. (1998) . Sinopsi obstetri : Obstetri Operatif, Pengaruh anemia pada Proverawati, A. 2013 Anemiadan Anemia Kehamilan.Yogyakarta : Nuha Medika.