Vol. 2, No. 3, Sept 2020 • ISSN 2656-0739

Journal Of Midwifery And Nursing

journal homepage: https://iocscience.org/ejournal/index.php/JMN

Differences In Hemoglobin Levels And Estimation Of Post-Born Blooding On Primipara Mothers In Clinics That Do Early Initiation Of Breastfeeding And Clinics That Do Not Do Early Initiation Of Breastfeeding

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Abstract- Background: A mother can die from postpartum hemorrhage in less than an hour. Uterine atony is the cause of more than 90% of postpartum hemorrhage that occurs in the first 24 hours after the birth of the baby. One of the actions that can reduce bleeding is early initiation of breastfeeding (IMD). The purpose of the study: To determine the difference in hemoglobin (Hb) levels and the estimated amount of postpartum bleeding in clinics that did Early Initiation of Breastfeeding (IMD) and clinics that did not initiate early breastfeeding (IMD) in 2015. Methodology: This study uses a comparative study design using pre-test and post-test. The number of samples in this study were 64 people, 32 people in the case group and 32 people in the control group. The sampling technique used was total sampling. This research was conducted at the Sally Pancing clinic and the Delima Belawan clinic. Analysis of the data using the dependent t-test. Results: The results showed that in the control group the average hemoglobin level before delivery was 11.038 with a standard deviation of 0.3791, after giving birth the average HB level was 10.309 with a standard deviation of 0.5189. The difference in the mean before and after delivery in the control group was 0.729. Whereas in the case group the average HB level before delivery was 10,531 with a standard deviation of 0.6088, after giving birth the average HB level was 9.478 with a standard deviation of 0.6484. the difference in the mean before and after delivery in the case group was 1.0531. Based on the results of the t-dependent test between the control group and the experimental group with a P value = 0.001. Conclusions and Suggestions: there are differences in maternal hemoglobin levels and the estimated amount of bleeding in mothers who do IMD and mothers who do not do IMD. So, it is hoped that health workers will support the success of the early breastfeeding initiation program.

Keywords: *Hemoglobin Levels, Early InitiationOf Breastfeeding, Estimated Number Of Postpartum Bleeding*

1. Introduction

A mother can die of postpartum hemorrhage in less than an hour. Uterine atony is the cause of more than 90% of postpartum bleeding that occurs in the first 24 hours after the birth of the baby. Most deaths due to postpartum hemorrhage occur in the first hour after the birth of the baby for this reason (Marisa, et al, 2011).

Postpartum hemorrhage is an important cause of maternal death, especially in developing countries. Where postpartum hemorrhage is bleeding more than 500-600 cc within 24 hours after the child is born. Early initiation of breastfeeding (IMD) is one of the supporting factors in reducing postpartum bleeding (Rukiyah, 2010).

One of the measures that can reduce bleeding is early initiation of breastfeeding (IMD). The first hour a baby finds its mother's breast is the beginning of a breastfeeding relationship to sustain life. The baby sucks at the breast and stimulates the nerve endings. Nerves instruct the brain to secrete two hormones, prolactin and oxytocin. The hormone oxytocin helps the uterus to contract so that it helps the expulsion of the placenta (placenta) and reduces maternal bleeding (Roesli, 2008).

When the baby is placed on the mother's chest, it is directly above the mother's womb. It helps compress the placenta and shrink the mother's uterus. That way, maternal bleeding will stop because of uterine contractions (Yuliarti, 2010).

Maternal HB levels will also affect the occurrence of bleeding at the time of delivery. Anemia is a condition where there is a decrease in hemoglobin levels, hematocrit and the number of erythrocytes below normal values (rukiyah, AY, 2010).

The effect of low HB levels (Anemia) during delivery is that there is a disturbance of his (straining strength), the first stage can last a long time, and neglected parturition occurs, the second stage lasts a long time so it can be tiring and often requires obstetric surgery, the third stage can be followed by retained placenta. , and postpartum hemorrhage due to uterine atony, the fourth stage can occur postpartum hemorrhage and uterine atony (Manuaba, 2010).

From Ayu Wuriyanti's research at Wonogiri Hospital, Surabaya in 2010, from 34 respondents, 11 mothers with anemia (Hb <11 gr%), 45.5% experienced postpartum bleeding of more than 500 cc and 54.5% did not experience postpartum bleeding. Meanwhile, 23 mothers who were not anemic, 4.3% experienced postpartum bleeding of more than 500 cc and 95.7% did not experience postpartum bleeding. There is a relationship between anemia in pregnancy and postpartum hemorrhage due to uterine atony.

Based on research by Dina, D, et al at Majene General Hospital, Majene Regency, Makassar in 2013, mothers with anemia had a 2.9 times greater risk of postpartum hemorrhage. It was concluded that age, parity, poor delivery history, prolonged labor were risk factors for postpartum hemorrhage. The results showed that age <20 or > 35 years had a 3.1 times greater risk than mothers aged 20-35 years. Parity < 1 or parity > 3 has a 6.1 times greater risk than parity 2-3. A history of bad delivery had a 3.1 times greater risk compared to mothers who did not have a history of bad delivery. Long parturition has a 3.5 times greater risk than mothers with normal parturition to the incidence of postpartum hemorrhage.

2. Method

The design in this study is a compare study using pre-test and post-test. This study involved two classes that were given different treatments, the experimental group did early initiation of breastfeeding (IMD) and in the control group did not do early initiation of breastfeeding (IMD). The experimental and control groups were observed and compared the estimated amount of blood in the two groups.

Research instruments are tools or facilities used by researchers in collecting data so that their work is easier and the results are better, in the sense of being more accurate, complete, and systematic so that they are easier to process.

The data collection tool used is a checklist sheet, which is a list to observe, which contains the name of the subject and several symptoms and other identities of the target of observation. The researcher puts a check mark ( ) on the list which indicates the presence of symptoms or characteristics of the target of observation.

After all data has been collected, data analysis is carried out through data processing which includes the following activities: Editing (data checking) the data processing process by checking the completeness of the data that has been collected, if there are errors, errors and deficiencies, data collection is carried out again. Coding (Providing code) data processing by providing codes for each respondent's answer. Tabulating the process of entering data or compiling data into tabular form. Data entry in the computer and is done using computerized techniques. The last stage is cleaning and entry, namely checking all data that has been entered into the computer program in order to avoid errors.

3. Analysis And Results

3.1 Univariate Analysis

a. Demographic Characteristics Of Respondents

Table 1 Frequency distribution of respondents based on the age of the mother giving birth to primigravida at the Sally Pancing clinic and the Delima Belawan clinic in 2015 (n=64)

Characteristics Mother	CONTROL/IMD		CASE/No IMD	
	f	%	f	%
Age Group (years)				
< 20				
20-35	2	6.3	6	18.8
	30	93.8	26	81.3
Total	32	100.0	32	100.0

Education Middle				
School High	6	18.8	9	28.1
School PT	24	75.0	18	56.3
	2	6.3	5	15.6
Total	32	100.0	32	100.0
Work IRT				
Self Employed Civil	25	78.1	21	65.6
Servant Civil Servant	4	12.1	6	18.8
	2	6.3	-	- 15.6
	1	3.1	5	
Total	32	100.0	32	100.0
HB Pre level (gr%)				
< 11				
11	13	40.6	24	25
	19	59.4	8	75
Total	32	100.0	32	100.0
Post HB levels (gr %)				
11	4	12.5	2	6.3
< 11	28	87.5	30	93.8
Total	32	100.0	32	100.0

Based on table 5.1 above, it can be seen that the majority of respondents were in the age group of 20-35 years as many as 26 people (81.3%). Likewise in the control group, the majority of respondents were in the age group 20-35 years as many as 30 people (93.8%).

Based on education, in the case group, the majority of respondents have high school education as many as 18 people (56.3%) and the minority of respondents with college education are 5 people (15.6%). Likewise in the control group, the majority of respondents with high school education were 24 people (75%) and the minority with college education were 2 people (6.3%).

Based on occupation, in the case group the majority of respondents with IRT jobs were 21 people (65.6%) and the minority of respondents with civil servant jobs were 5 people (15.6%). While in the control group, the majority of respondents with household work as many as 25 people (78.1%) and the minority with civil servant jobs as many as 1 person (3.1%).

The characteristics of mothers according to HB levels showed that in the control group, the majority of HB levels before giving birth had HB11 gr%, namely 19 people (59.4%) and the majority of HB levels after giving birth had HB <11, namely 28 people (87.5%) , whereas in the case group, the majority of HB levels before giving birth had HB < 11 g%, namely as many as 24 people (75
%) whereas after giving birth the majority had HB <11 as many as 30 people (93.8%).

b. Characteristics of respondents based on the estimated number of blood

Table 2 Frequency distribution of respondents based on the estimated blood volume of primigravida mothers at the Sally Pancing clinic and clinic Delima Belawan 2015 (n=64)

Amount estimation	Sally Fishing Clinic (IMD)		Pomegranate Clinic Belawan (Not IMD)	
	F	%	F	%
A little	20	62.5	13	40.6
Lots	12	37.5	19	59.4
Total	32	100.0	32	100

The characteristics of the mother according to the amount of bleeding showed that in the control group, the majority with the least amount of bleeding were as many as 20 people (62.5 %), while in the case group, the majority with the amount of heavy bleeding were 19 people (59.4%).

3.2 Bivariate Test

a. Comparison of hemoglobin levels in postpartum mothers who did IMD at the Sally Pancing clinic in 2015

Table 3 Differences in HB levels before and after childbirth with the implementation of IMD at the Sally Pancing clinic in 2015

Variable	mean	SD	Different mean	SE	*p value*	N
HB level						
- before	11,038	0.3791	0.7281	0.0670	0.000	32
-after	10,309	0.5189		0.0917		

The results showed that the average HB level of primigravida mothers before giving birth in the control group was 11.038 with a standard deviation of 0.3791. The average postnatal HB level was 10.309 with a standard deviation of 0.5189. It can be seen that the difference in the mean before and after giving birth is 0.729 . Statistical test results obtained p value = 0.000

at an alpha value of 0.05 then Ha is accepted and Ho is rejected so it can be concluded that there is a significant difference in HB levels before and after delivery in clinics that carry out the procedure.Early Initiation of Breastfeeding (IMD) at Sally . clinic fishing rod.

b. Comparison of hemoglobin levels in postpartum mothers who did not do IMD at the Sally Pancing clinic in 2015

Table 4 Differences in HB levels before and after giving birth at the Delima Belawan clinic in 2015

Variable	mean	SD	Different mean	SE	*p value*	N
HB level						
- before	10,531	0.6088	1.0531	0.1076	0.000	32
-after	9,478	0.6484		0.1146		

The results showed that the average HB level of primigravida mothers before giving birth in the case group was 10,531 with a standard deviation of 0.6088. The average postnatal HB level was 9.478 with a standard deviation of 1.053. It can be seen that the difference in the mean before and after giving birth is 1.0531 . The results of the statistical test showed that the p value = 0.000 at an alpha value of 0.05, then Ha was accepted and Ho was rejected, so it could be concluded that there was a significant difference in HB levels before and after delivery in clinics that did not carry out the Early Initiation of Breastfeeding (IMD) procedure at the Delima Belawan clinic.

From the results of data analysis showed that the two groups, namely the control group and the experimental group, came from the same or homogeneous condition as seen from the homogeneity value with the Levene-test test showing the number > 0.05.

Respondents in this study were 64 people, 32 people in the control group and 32 people in the experimental group. Based on table 5.1 above, it can be seen that the majority of respondents were in the age group of 20-35 years as many as 26 people (81.3%). Likewise in the control group, the majority of respondents were in the age group 20-35 years as many as 30 people (93.8%).

Based on education, in the case group, the majority of respondents had high school education as many as 18 people (56.3 %). Likewise in the control group, the majority of respondents with high school education were 24 people (75%).

Based on occupation, in the case group the majority of respondents with IRT work were 21 people (65.6 %). While in the control group, the majority of respondents with IRT work were 25 people (78.1 %).

Based on the characteristics of the mother according to HB levels, it showed that in the control group, the majority of HB levels before giving birth had HB > 11 g%, namely 19 people (59.4%) and the majority of

HB levels after giving birth had HB < 11, namely 28 people (87.5 %), whereas in the case group, the majority of HB levels before giving birth had HB < 11 g%, namely as many as 24 people (75%) while after giving birth the majority had HB < 11 as many as 30 people (93.8 %).

Based on the results of the T-Test conducted between the control group and the experimental group with a p value = 0.00. This means that there is a significant difference in maternal HB levels before and after delivery with the estimated blood count at the Sally Pancing clinic and the Delima Pancing clinic.

The mean difference between the two groups of cases and controls was very different. At Sally's clinic, the mean difference is 0.7281. At Sally's clinic, IMD is performed on every patient who gives birth. Suction directly on the mother's nipple causes a reflex that can release oxytocin from the pituitary, so that it will increase the strength of uterine contractions thereby reducing the risk of postpartum hemorrhage and reducing maternal HB levels before and after childbirth. Meanwhile, at the Pomegranate Clinic, there is a mean difference of 1.0531. It is bigger compared to Sally's clinic. This means that the Pomegranate clinic is more at risk of postpartum bleeding because at the Pomegranate clinic IMD is not carried out in childbirth.

This study is in accordance with Wuryanti's research in 2010 at the Wonogiri Hospital, Surakarta from 34 maternity mothers, 11 mothers with anemia during pregnancy, 45.5% experienced postpartum hemorrhage due to uterine atony and 54.5% did not bleed. So it can be concluded that there is a relationship between anemia in pregnancy and postpartum hemorrhage due to uterine atony.

Research by Sumarah, et al at the Sleman Hospital, showed that the average amount of blood in postpartum mothers who underwent early initiation of breastfeeding (IMD) was lower than those who did not. The average amount of bleeding in mothers who practice IMD is 77.26 + 33.6 cc, and in mothers who do not do IMD is 115.4 + 31.0 cc. The average difference in the amount of bleeding in the two groups was -38.1 cc. This difference was statistically significant with p < 0.05 (p = 0.000), 95% CI = 54.6–21.7. External variables, either age, parity or maternal education, did not have a significant relationship with the amount of postpartum hemorrhage with p> 0.05. In conclusion, BMI affects the amount of postpartum bleeding. The average number of postpartum hemorrhage in women who underwent IMD was 38.

According to the findings of the researchers at the time of the study, the implementation of IMD was closely related to the incidence of postpartum hemorrhage. Mothers who had an IMD had a smaller number of blood estimates than mothers who did not. This is because at the time of IMD, it stimulates the release of oxytocin from the pituitary, so it will increase the strength of uterine contractions. Likewise, the mother's HB levels, where mothers who did IMD experienced a slight decrease in HB levels before and after giving birth compared to mothers who did not.

According to Sarwono (2005), Geri (2009), anemia in pregnancy is a pregnant woman who has an Hb of less than 10 g/100 ml. Therefore, pregnant women with Hb between 10 g/100 ml and 12 g/100 ml are not considered to have pathological anemia, but physiological anemia or pseudoanemia.

During pregnancy, maternal plasma volume gradually increases up to 50% with the addition of about 1200 ml at term (term). The increase in total red blood cells is 25%, or about 300 ml. This relative hemodilution causes a decrease in Hb concentration, which will reach a nadir during the second trimester of pregnancy and increase again in the third trimester (Fraser, 2012).

This can be explained because pregnant women cannot meet the coverage of nutritional needs through the food they eat. Based on the results of interviews with researchers, there are still mothers who do not come to the clinic to get iron tablets so that the nutritional needs are only obtained from the daily food consumed. Iron tablets in pregnancy are very necessary to meet iron needs in pregnancy so that all pregnant women are expected to consume 90 tablets of iron during pregnancy.

The implementation of Early Breastfeeding Initiation has been implemented so that all patients who give birth at the clinic are expected to perform IMD correctly. Suction directly on the mother's nipple causes a reflex that can release oxytocin from the pituitary, so that it will increase the strength of uterine contractions. The baby's sucking stimulates nerve impulses to the brain. Oxytocin is delivered to the blood vessels from the back of the pituitary. Oxytocin is flowed through the blood to the breast, then it will stimulate the contraction of the muscles that surround the breast milk factory so that the milk is squeezed out of the factory into the breast milk warehouse (Sulistyawati, 2010).

4. Conclusion

There was a significant difference in the mother's HB levels before and after giving birth at the Sally Pancing clinic and the Delima Belawan clinic.

Mothers who had BMI before giving birth were 40.6% had anemia and after giving birth, those who had anemia became 87.5%. Meanwhile, in mothers who did not have an IMD before giving birth, 75% experienced anemia and after giving birth it became 93.8%. Mothers who did IMD, decreased HB levels less than mothers who did not do IMD.The average amount of blood in postpartum mothers who did early initiation of breastfeeding (IMD) was more.

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